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Graduate Studies Dean Named

Prof. Isobel Heathcote has been appointed dean of graduate studies for a five-year term that began Dec. 20, pending approval by Board of Governors. Associate dean of graduate studies since 1998, she has served as acting dean for the past 13 months following the appointment of her predecessor, Prof. Alastair Summerlee, to the position of associate vice-president (academic).

Heathcote, who holds a joint faculty appointment in the School of Engineering and Faculty of Environmental Sciences, says she was "thrilled" to learn of her appointment. "The conventional wisdom among graduate deans is that this is the best job in a university," she says. "There's merit in that view."

Provost Iain Campbell, chair of the search committee for graduate studies dean, says Heathcote's appointment reflects the important contributions she has made to graduate studies at Guelph during her time as acting dean and associate dean.

"Her vision for the future, her infectious enthusiasm for her work and her demonstrated expertise in administration, teaching and research all bode well for the future of graduate studies at the University of Guelph," he says.

A graduate of the University of Toronto and Yale University, Heathcote joined U of G in 1991. Working with a staff of eight, she will be responsible for such tasks as

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MONARCH ALIVE AND WELL

Prof. Mark Sears, Environmental Biology, says the Monarch butterfly is alive and well despite reports that biotechnology is threatening it. See story on page 9. PHOTO BY CANDACE SLACK

Montgomery Book Donated to U of G

Handwritten manuscript believed lost for decades

Like many young girls, Emily Woods's daughter, Vicki, read Lucy Maud Montgomery's *Rilla of Ingleside* when she was in her early teens. But how many people can boast that the copy they read was written in Montgomery's own scrawl, complete with corrections and notes in the margins?

"It's quite something to go through the book that way — if you've seen her handwriting, you know what I mean," says Woods. "Montgomery scratched things out and made changes to each page. It was not an easy chore to read it that way, but (my daughter) did it."

The manuscript, believed to have been lost for decades, was in Emily Woods's possession for some 30 years. It has become the latest major addition to the L.M. Montgomery Collection in U of G's Archival and Special Collections at the McLaughlin Library.

On Jan. 19, U of G will officially recognize the donation of the *Rilla*

of *Ingleside* manuscript from the Woods family. The manuscript will be kept in a rare book vault in the Archival and Special Collections area and is currently on display in the Wellington County Room.

"It gives us great pleasure to turn it over to the University of Guelph, where it will be safe and join the rest of the collection, and will provide opportunities for study and research," says Woods.

Published in 1921, *Rilla of Ingleside* was planned as the last in the *Anne of Green Gables* series. It is a First World War story written from a young woman's point of view and has been recognized by historians and women's studies experts for its uniqueness in Canadian literature.

"It is the first English account from a woman's perspective of how people 'at home' reacted to the war," says Bernard Katz, head of special collections and library development.

"It poignantly shows how women re-

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Provost Candidates to Give Public Talks

Members of the University community invited to attend forums and submit comments to search committee

THE SEARCH COMMITTEE for the position of provost and vice-president (academic) has short-listed two candidates — Dr. Alan Shaver, dean of science at McGill University, and Dr. Alastair Summerlee, U of G's associate vice-president (academic).

"The search committee had a substantial number of excellent candidates to review, including men and women from a full range of disciplinary backgrounds and from institutions in Canada and abroad," says president Mordechai Rozanski, committee chair. "From this group of talented candidates, the search committee interviewed a number of individuals and selected two finalists to go forward to the next stage of the search process."

Members of the University community will have an opportunity to meet these candidates in public forums scheduled for next week. Each candidate will present a public lecture on the key challenges facing public higher education in the new century. Following the lecture, each candidate will be available for questions and discussion. Dr. Shaver will speak Jan. 24 and Dr. Summerlee will speak Jan. 27, both from 9 to 10:30 a.m. in Room 1714 of OVC's Lifetime Learning Centre.

Appointed Dean in 1995

Born and raised in eastern Ontario, Dr. Shaver earned his B.Sc. from Carleton University in 1969 and his PhD in chemistry from MIT in 1972. He held a Natural Sciences and Engineering Research Council (NSERC) post-doctoral fellowship at the University of Western Ontario, then joined the faculty of McGill as assistant professor in 1975. He was an undergraduate adviser from 1977 to 1981, served as his department's first director of graduate studies from 1982 to 1985 and was chair from 1991 until 1995, when he was named dean of science. He was recently reappointed to a second five-year term.

Dr. Shaver's research specialization is organometallic chemistry, an early interdisciplinary combination of organic and metal chemistry that is important in biological systems and in industrial processes related to petroleum refining and the synthesis of pharmaceuticals. He has published more than 115 papers in

major journals and currently holds an NSERC research grant and supervises a small group of researchers. His teaching interests lie in inorganic and organometallic chemistry and catalysis, and he has continued to teach at a reduced load as dean.

During his years at McGill, he has served on the university's Senate, Board of Governors, executive of the Board of Governors and numerous committees. He was also the elected faculty representative to the McGill Association of University Teachers Council. He played a leading role with McGill's deans of arts and agricultural and environmental sciences in the establishment of the McGill School of Environment. He was also involved in the development of the School of Computer Science as a university academic and budget priority and the creation of a Panama field studies semester in partnership with the Smithsonian Tropical Research Institute and the Panamanian Government.

Joined U of G in 1988

Dr. Summerlee earned his B.Sc., B.V.Sc. and PhD at the University of Bristol and held faculty positions there as a lecturer in veterinary anatomy, preclinical dean of the Bristol Veterinary School and chair of the Wards' Committee, the university's committee on student residence. He joined U of G in 1988 as a professor in the Department of Biomedical Sciences and was named associate dean of OVC in 1994. In 1995, he was appointed dean of graduate studies, a position he held until becoming acting associate vice-president (academic) in 1998. He was officially appointed to the position in 1999. He has also served as chair of the Enrolment Management Committee since 1997.

Dr. Summerlee's major research interest lies in the neural and hormonal control of birth and lactation, work that has been funded by granting councils and in partnership with private-sector sponsors. He is currently involved in collaborative research with scientists in the United States and Australia and has published widely in international research journals. He is frequently an invited speaker at international conferences on the role of the hor-

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Mabley Accepts Scholarship at Florida State University

Search for successor will be launched immediately

JOHN MABLEY, vice-president (development and public affairs) since 1996, is leaving U of G in July to accept a Regent's Scholarship for doctoral studies in higher education awarded to him by Florida State University.

In the interim, Mabley will continue to work closely with president Mordechai Rozanski to provide active leadership to the University's development and alumni affairs activities, particularly to the Campaign. During this period, Communications and Public Affairs will report directly to the president.

"I am grateful to John for the leadership he provided for the very successful ACCESS Fund campaign, which has added some \$17 million to the University's endowment for stu-

dent assistance," says Rozanski. "John has also contributed importantly to the reorganization of Guelph's development operations, and consequently, we are well placed to move forward with both our annual fund-raising activities and the most ambitious capital campaign in the University's history. His seasoned counsel will be missed, but I understand his decision to take advantage of the opportunity he has been offered in Florida. I'm sure the University community joins me in thanking John for his substantial contributions and extending to him best wishes for the future."

Mabley says he feels privileged to have worked with such a high calibre of staff and volunteers in Guelph's advancement program over the

years. "I am especially proud to have had the opportunity, working with the president, provost and deans, to establish a more collaborative approach to fund-raising," he says. "I am certain that the involvement of deans, senior development staff and alumni volunteers in the colleges will yield substantial future support for Guelph's teaching and research priorities."

A 1970 BA graduate of Guelph, Mabley adds that he is looking forward to maintaining a volunteer support association with U of G in the years ahead.

A search for a successor vice-president will be launched immediately for the University's work in development, alumni affairs and communications, Rozanski says.

BOARD OF GOVERNORS

Board reviews and reaffirms decision to sell Cruickston property

In May 1999, following a thorough review by the Board of Trustees and its Real Estate Development Committee, Board of Governors decided to sell the Cruickston property to fulfil the original objectives of the gift to advance the University of Guelph's research and teaching in agriculture.

The property, 913 acres located primarily in North Dumfries Township adjacent to the City of Cambridge,

and a 17,500-square-foot 19th-century home, associated buildings and nine other houses were gifted to the University in 1968 by Matthew Wilks Keefer, reserving a life interest for family members living on the estate.

The University managed the property for 17 years until the death of the last family member, Margaret Keefer, in 1990, when the University assumed full responsibility.

In 1991, then U of G president Brian Segal established a committee to advise on the future use of the Cruickston property. The 11-person advisory committee submitted its final report in March 1993 following a two-year study of the issues, including a public forum in November 1992. In 1996, after consultation with the committee members, the University sold the manor and 53 acres of surrounding grounds to the Chaplin family of Cambridge. The family resides in the manor and is restoring the home to preserve its architectural heritage.

In the years between the committee's 1993 report and the decision to sell the remaining land in 1999, the University consulted extensively with some 20 potential partners and researched many other uses for the land. Serious discussions took place with the Fields Mathematical Institute, the Toronto Symphony, resort developers and other universities, among others.

By May of 1999, B of G was convinced that it had exhausted all possibilities and that in the interests of meeting the gift's objectives to advance agricultural teaching and research, the sale of the land should proceed. Canadian real estate broker J.J. Barnicke was selected to market the property.

The decision to sell the land was reviewed and reaffirmed by B of G chair Simon Cooper at the December 1999 meeting after the board heard a report from Board of Trustees chair Bill Brock and listened to presentations from two students who had asked for speaking rights to express their concerns about the sale.

One concern was that the City of Cambridge and the Nature Conservancy (Ontario) would need more time than other potential purchasers to submit an offer. Brock reassured the students and representatives of the public at the meeting that although the board could not grant a moratorium on

the sale, it invited and welcomed a letter of intent from the city and the Nature Conservancy outlining their proposal and would certainly consider a reasonable time line to raise the necessary funds for a competitive offer.

President Mordechai Rozanski indicated that, at his request, an OAC advisory committee had offered advice on how to use the income from the endowment to be created from the proceeds of the sale. He also accepted for consideration a list of recommendations on possible uses of this income from the Central Student Association representative, Leanna Falkiner. He indicated that he endorses her particular focus on a substantial set-aside for student assistance.

@Guelph interviewed Nancy Sullivan, vice-president (finance and administration), shortly after the board meeting to discuss the decision to sell the Cruickston property and the concerns it has raised. See the interview on page 4.

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CHILD-CARE CENTRE PLANS REUNION

Did your child attend U of G's Child-Care and Learning Centre in the past 10 years? Were you a student volunteer at the centre? If so, the Year 2000 Committee wants to hear from you. The committee is planning a reunion this year to celebrate the centre's 10th anniversary. To be held June 18, the reunion will bring together several hundred current and former students, along with teachers, parents, faculty, university students and staff. Activities will include a barbecue, sports games, readings by children's authors and musical performances. For more information or to register, call Alison Kyba at Ext. 2682.

NOMINATIONS SOUGHT FOR CBS TEACHING AWARD

The College of Biological Science invites nominations of individual faculty members or teaching teams for its annual Award for Excellence in Teaching. Nomination forms (available in offices of department chairs) and supporting documentation must be submitted to the CBS dean's office by the first week of March. For more information, call Ext. 3343.

NEW NAME FOR GRADUATE PHYSICS PROGRAM

The Guelph-Waterloo Program for Graduate Work in Physics has a new name — the Guelph-Waterloo Physics Institute. Approved by Senate in December, the name change was proposed by the Senate Committee on University Planning to better reflect the breadth and depth of activities undertaken by faculty and students involved in the program.

NOMINATION DEADLINE FOR HONORARY DEGREES FEB. 28

The winter deadline for nominations for honorary degrees and University professors emeriti is Feb. 28. Honorary degrees recognize outstanding contributions in the arts, humanities and sciences or honour people outstanding in professional or public life. University professor emeritus status is awarded to faculty who will continue their scholarly association with the University after retirement and whose scholarship is recognized internationally. For nomination information, call the Senate Office at Ext. 6758.

CELEBRATING THE ARTS

The College of Arts Student Union (CASU) is sponsoring its second annual Festival of the Arts this week. Events include a History Society pub night Jan. 19 beginning at 8 p.m. in the Grad Lounge on Level 5 of the University Centre and an art show exhibiting student works in all media Jan. 20 from 7 to 9 p.m. in Room 103 of the MacKinnon Building. For more information, call the CASU office at Ext. 6264.

Bunce Receives First ESTAC Award for Meritorious Research

National honour recognizes research on volatile organic compounds

PROF. NIGEL BUNCE, Chemistry and Biochemistry, has received the inaugural ESTAC Award for Meritorious Research from the Environmental Science and Technology Alliance of Canada (ESTAC). Bunce says he was "surprised and pleased" to receive the award, which recognizes his research on pollutants called volatile organic compounds (VOCs), which cause ozone to form in the lower atmosphere or troposphere.

In a project funded by ESTAC, Bunce and his colleagues developed a software package designed to help companies gauge the likely effects on air quality of potential emissions of VOCs. He has received about \$45,000 over the past two years from the consortium, which brings together researchers from 25 universities with 26 companies in Canada's chemical and petrochemical industries.

One of the companies interested in the project was Calgary's Nova Chemicals Corp., which had been considering two possible solvents for a new industrial process. "They were able to decide which solvent would be more environmentally friendly," says Bunce. "They made the choice of the solvent based on the results we were able to give them."

Nova nominated the U of G organic chemist for this first-ever award, established to recognize both the scientific excellence and the commercial value of research funded by ESTAC.

Since ESTAC was founded in 1985 (it was originally called the Institute for Chemical Science and Technology), it has funded more than 150 research projects worth about \$24 million, including matching federal funding. U of G has belonged to the consortium for about a

decade.

Jack Pasternak, co-executive director of ESTAC, says Bunce's award represents an endorsement from member companies "not only on the excellence of his research but on how useful it was to their industry."

ESTAC has provided the software to its member companies; Bunce hopes to see it distributed even more broadly.

He says that calculating the effects of specific air pollutants is a formidable challenge. "It's very difficult to assess. The impact of your emission depends on what's in the atmosphere already."

Award recognizes both the scientific excellence and the commercial value of research funded by the Environmental Science and Technology Alliance of Canada

The software package is calibrated against data on VOCs collected in a 1993 monitoring project in southern Ontario. Bunce explains that it's not currently possible to track long-term changes in ground-level ozone because the analytical data at any one location are not available in real time.

The software models the likely impacts of pollutants by accounting for various local factors — the specific substance to be released and in what quantity, ambient air pollution, climatic variables such as wind direction, even the season and time of day. Bunce incorporated meteorological factors involved in ozone production with the help of Prof. Terry Gillespie, chair of the Depart-

ment of Land Resource Science, a co-investigator in the project. Details of the software were developed by Uwe Oehler, computer programmer in the Department of Chemistry and Biochemistry, and post-doc Alexandre Konstantinov.

Ground-level ozone, which accompanies the brown haze that hangs over many major cities, is thought to contribute to health problems such as asthma. It forms as a byproduct of the oxidation of VOCs into carbon dioxide and water.

Ozone exists naturally in the lower atmosphere, resulting from the oxidation of natural and human-made VOCs, and from downward mixing from the upper atmosphere. Unpolluted air contains ozone at 20 to 35 parts per billion. Amounts below 82 parts per billion are considered acceptable under Canadian guidelines.

The substance becomes a pollution problem downwind of cities, where highly reactive VOCs such as benzene, toluene and ethylene mix with nitrogen oxides emitted mostly in vehicle exhaust to produce ozone under the influence of sunlight.

"The most important sources are not industrial sources," says Bunce. "The ESTAC member companies want to know which of their emissions might be the most problematic in terms of contributing to the ozone issue."

He says he's grateful to have had the chance during three decades at Guelph to branch into teaching and research in environmental chemistry and chemical toxicology. "I've always had the encouragement to do different things. I've always found my department to be incredibly supportive."

BY ANDREW VOWLES

PEOPLE

ANIMAL WELFARE COURSE EARNS KUDOS IN U.S.

Prof. Ian Duncan, director of the Colonel K.L. Campbell Centre for the Study of Animal Welfare, is one of the first two winners of a new Animal and Society Course Award presented by the Humane Society of the United States. Duncan received the honour for his course "Principles of Farm Animal Care and Welfare."

PROVOST JOINS PIXE TALKS

Prof. Iain Campbell, provost and vice-president (academic), participated in an expert consultants' meeting on "Software for PIXE Analysis" at the International Atomic Energy Agency in Vienna.

STUDENT ESSAY WINS PRIZE

Lydia Lamontagne, a Guelph undergraduate student majoring in French studies, was awarded the first Franco-Ontarian Writers Association Award this fall for the best undergraduate student essay on Franco-Ontarian literature. The essay will be published in the periodical *Liaison*.

SCHOLARSHIP AWARDED

Third-year Faculty of Environmental Sciences student Su-Yin Tan has been awarded \$1,500 a year for the next two years from the Canadian Portland Cement Association Environmental Scholarship Program, administered through the Association of Universities and Colleges of Canada. Tan is one of six students in Canada to receive the 1999 award.

LONG SERVICE HONOURED

U of G employees with 25 years of service were honoured in the fall. They are: Brian Bloomfield, Maria Chalmers, Leonard Coghlin, Dennis Craven, Linda DaMaren, Mary Davis, Luigi DiLoreto, Fred Eidlun, Starr Ellis, Bonnie Erdelac, Gary Ferris, Silvano Filippin, Shirley Findlay, Mario Finoro, Luisa Franceschi, Cheryl Franchetto, Larry Fraser, Ann Friday, Anna Gallina, Allan Geisel, Larry Grovum, Marilyn Hahn, David Hattie, Margaret Hebbes, Jim Hoare, John Hubert, Yow-Tay Hwang, Henry Kuiper, Donna Lero, Barrie Lindsay, Gerald Mackie, Harry Martin, Wayne Martin, Muriel McCutcheon, Ian McMillan, Bill McNaughton, Katherine McPhee, Brenda Merrill, Jennifer Minoque, Gisela Molyneux, William Morton, Bernhard Nickel, Susan Norman, Michelle Normandin, Herb Rauscher, Jessie Reid, Michelle Ross, David Sandals, Steven Scadding, Frans Schryer, Michael Sobol, Wendy Spicer, Howard Swatland, William Szkotnicki, Francis Tapon, Bruno Tedesco, Patricia Thompson, Jenny Van de Kamer, Marjorie Wall, Sheila Watson, Allan Watts, Darlene Wiltzie, Andrew Winston, Ken Woodside and Daniela Zadroz. Two members of the Department of Plant Agriculture's Simcoe Research Station also marked 25 years recently — Ernest Andrews and John O'Sullivan.

Written Comments from Provost Candidates Invited by Feb. 4

Continued from page 1

more relax in reproductive processes.

A 1991 recipient of a U of G Faculty Association teaching award, Dr. Summerlee is a strong advocate of learner-centred education and of using active learning strategies. He has developed and published several teaching programs, including tape-slide series, computer-based modules and CD-ROMs. In 1995, he worked at LifeLearn Inc., a multimedia software company, as vice-president for production and was involved in the development of educational software for continuing education.

Throughout his academic career, he has continued to work with local cultural and social groups and is currently the chair of the board of gov-

ernors of a local school.

The candidates' full curriculum vitae and a biographical sketch provided by each are available at the reserve section of the U of G Library.

Members of the University community are encouraged to attend both candidates' lectures and to provide written comments to the search committee. Comments must be received by Feb. 4 and should be submitted to the president by e-mail at search@exec.admin.uoguelph.ca or by letter directed to the Office of the President. All e-mail comments must identify the writer, and letters must be signed. Anonymous comments will not be reviewed. Comments will be shared with the search committee in full and will be held in strict confidence.

The candidates will also be meeting with the Vice-President Academic's Council and separately with academic and staff "direct-reports" to the provost, all of whom will be invited to offer comments to the search committee.

In addition to the president, members of the search committee are College of Arts dean Carole Stewart; Board of Governors chair Simon Cooper; Prof. Norman Gibbins, Microbiology; Prof. Stephen Kruth, Clinical Studies; Prof. Tom Michaels, associate dean of OAC; undergraduate student Nadia Zelisko; graduate student Laurie Halpenny-Mitchell, School of Engineering; and Nancy Robinson, co-ordinator of undergraduate curriculum.

Sale of Cruickston Property Raises Concerns

@Guelph interviews Nancy Sullivan, vice-president (finance and administration)

Some members of the local community and the press are reporting that the sale of the Cruickston property is in complete disregard of the terms of the gift to the University. What is your response to this criticism?

The University has always respected the wishes of Matthew Wilks Keefer, who gifted (not willed) the Cruickston property to U of G several years before his death. The title was transferred to the University with no covenants or restrictions, except for a life interest for family members living on the estate.

Thomas McEwan, who was the University's founding chair of Board of Governors from 1964 to 1968, personally negotiated the gift. In a recent letter to the University, read at the board's December meeting, he confirmed that Matthew Wilks Keefer's only request of the University was that it keep the land intact during his lifetime so that he, his wife and his sisters could spend their remaining days on the property. This request, the life estate, was honoured.

Both Thomas McEwan and John Hamilton of Weir and Foulds, the University's legal counsel, have also confirmed that Matthew Wilks Keefer requested no further limits on the use or disposition of the property and that the University promised none. His primary objective was to advance research and education in agriculture.

Bill Tossell, who at the time of the gift was responsible for developing agricultural research stations as associate dean of the Ontario Agricultural College, also recently confirmed in a letter to the editor in the Guelph Mercury that Matthew Wilks Keefer understood that the University might not be able to use the lands specifically as an agricultural research station. The letter notes that Matthew Wilks Keefer also understood that a gift to support agricultural research and education, without

constraint, would be valuable to the University and that he finalized the transfer arrangement on this basis.

He also established a \$2.5-million fund to assist the University in maintaining the property. The University acknowledged this generous donation and has used it to maintain the property. After adding the proceeds from the sale of the land to this fund, the University will establish an endowed fund to support agricultural teaching and research in the Keefer/Cruickston name in perpetuity.

Throughout, U of G has expressed only the sincerest appreciation for the gift. We regret that there are some who believe the University has not respected Matthew Wilks Keefer's intentions, but we are confident that we are acting in a responsible and respectful manner and in the best interests of U of G.

Critics have alleged that the University has not investigated other options for the use of this land. Have other options been investigated that would be more palatable to members of the local community?

U of G has investigated partnership opportunities with some 20 public- and private-sector groups over the years. The University has also seriously and creatively considered ways to use the property for agricultural or ecological teaching and research. None of these have proven viable.

Through its operating budget, the University supports the 400-acre Arboretum, which is used by faculty for ecological research and teaching and is heavily used by the general public in Guelph and the surrounding area for recreation and study. The University also manages more than 20 agricultural research stations devoted to agri-food research.

Many individuals at the University expended great effort over almost a decade in the

search for appropriate and viable options before B of G decided in May 1999 to sell the property. Even since that decision and the involvement of realtor J.J. Barnicke, the University, through its Real Estate Division, is continuing to investigate opportunities. Recently, meetings have been held with the Chaplin family, the Nature Conservancy (Ontario) and the City of Cambridge.

The University, considered a leader in environmental teaching and research, is also being criticized for selling property that contains several environmentally sensitive protected areas. What is your response to this concern?

The University appreciates the concerns of people who fear that the sale of this land will affect the environmentally sensitive portions of the property. In fact, any purchaser who wishes to change the property zoning or official plan designations or who wishes to deviate in any way from any government regulations will undergo a rigorous regulatory approval process.

Contrary to media reports, the University has not approached any potential buyer in the aggregate industry. In fact, we have instructed J.J. Barnicke to cast as wide a net as possible for interested parties, including international prospects.

Why has Board of Governors decided to sell the land now?

As a publicly accountable institution, the University is first responsible for supporting teaching and research and protecting academic quality and accessibility, a difficult prospect in these times. Critical to those efforts is the University's operating budget. Over the past few years, we have suffered a 25-per-cent cut in that budget. As a result, we have been forced to raise tuition and reduce our faculty and staff

complement by 21 per cent. Currently, we face an additional seven-per-cent cut to the operating funding we receive from the Ontario Ministry of Agriculture, Food and Rural Affairs.

The proceeds of the Cruickston sale will be critically important in supporting the University's special responsibility for agriculture in the province, particularly in light of the current fiscal climate and our fiduciary responsibilities.

How will the proceeds of the sale be used?

The president advised B of G at its December meeting that, at his request, an OAC advisory committee has offered recommendations on how to use the income from the endowment (to be created from the proceeds of the Cruickston property sale) to advance teaching and research in agri-food across the University. The president has advised the committee that 25 per cent of the proceeds must be set aside within the endowment for student assistance in this broad area.

When do you expect to have bids from potential buyers? What does the process involve?

J.J. Barnicke has just released a sales brochure marketing the property and inviting prospective buyers to submit letters of intent by the end of this month. Formal offers are required by March 21. (Members of the University community who would like a copy of this brochure can call Communications and Public Affairs at Ext. 6892.)

The reason for the two-stage process is that it allows Barnicke to try packaging offers and facilitating partnerships like the one being proposed by the Nature Conservancy and the City of Cambridge.

Formal offers will be submitted to B of G's Real Estate Development Committee March 31. This committee will make its recommendation for consideration by the full board at its May meeting.

EMC Recommends No Further Differentiation in 2000/2001

Recommendations will be part of the considerations for the upcoming preparation of the budget for next year

U OF G will not further differentiate tuition fees for existing programs in the budget year 2000/2001. The president has accepted recommendations made by the Enrolment Management Committee (EMC) and endorsed by the Senate Committee on University Planning (SCUP), including one that Guelph not proceed with fee differentiation of existing programs as part of its budget options for the coming fiscal year.

The president has indicated that the recommendations of the committee on differentiation will be part of the considerations for the upcoming preparation of the budget for next year.

"SCUP unanimously endorsed EMC's report on fee differentiation and complimented the committee's efforts in dealing with this important issue," says SCUP chair Prof. Glen Van Der Kraak, Zoology. "EMC charted the right direction at this time, but left options available for dealing with funding issues in strategic program areas in the future."

EMC's final report on the possible role of differentiation in budget discussions, which can be viewed at

www.uoguelph.ca/atguelph/99-12-08/articles/enrolment.html, shaped its recommendations on the basis of wide-ranging input from the University community, including written submissions, questionnaires and public forums.

The report makes the following seven recommendations:

- That the University administration continue to put significant pressure on the provincial government to reinvest in higher education.
- That the University not proceed to differentiate further tuition fees for existing programs in the budget year 2000/2001.
- That the University continue to consider the possibility of differentiation of tuition fees as a budget option. In order to make decisions on which programs might be subject to a differentiated fee, the University should outline a series of guidelines that should be considered before differentiation/further differentiation could be introduced.
- That the University seek further ways to promote a province-wide assessment of the impact of rising tuition fees and differentiation on access to higher education. (This is

particularly important in the light of the November 1999 announcement by the provincial government, which effectively reduces access to student loans.)

- That the University consider the possibility of introducing differential fees for new programs based on a review considering some or all of the following issues: cost of program development and delivery; mandated differences in the formula fee; programs where, broadly defined, accessibility to traditional students is not a concern; programs that involve professional upgrading; and programs that have a minimal research/thesis requirement. (The committee noted that differentiation of fees could be an increase or decrease in fees compared with average costs across the institution.)
- That, if the University implemented differential fees in the future, it should do so based on a model related to clearly identified costs of the program, and there should be an explicit understanding of the distribution of any additional revenue from the differential fee.
- That EMC continue to review ways in which financial aid can be

directed towards students with greatest financial need to ensure accessibility. (In support of this recommendation, EMC will consider information from the study on accessibility.)

EMC chair Prof. Alastair Summerlee, associate vice-president (academic), thanks members of EMC and the community who contributed to the discussion on differentiation. He says EMC will soon be

considering recommendations on general tuition fees as part of the annual cycle of budget preparation, but notes that the province has made no announcement about tuition fees for the 2000/2001 budget year and has given no indication when an announcement will be made. The government usually provides some guidelines on tuition fees that affect the recommendations made by EMC to the president.

IN MEMORIAM

CHARLOTTE HITCHCOCK

Charlotte Hitchcock of Acton, a staff member in the Animal Health Laboratory at Laboratory Services, died suddenly Dec. 11. She joined U of G in 1989 after graduating from the Ontario Business College and was employed in the Department of Pathobiology for more than seven years before joining Lab Services. She is survived by her husband, Dwayne, and three children: Dylan, 6; Dana, 4; and Dean, 2. Memorial donations are being accepted for the

Hitchcock Children's Trust Fund through the Bank of Montreal in Acton.

ELARIO MARTINELLO

Elario Martinello, a staff member in the Physical Resources plumbing shop, died Jan. 10. He was 58. He had been employed at U of G since 1974 and is survived by his wife, Gina; his children, Emily, Angie, Anna, Dina, Deloris, John, Rosemary and Gino; and 16 grandchildren.

Poultry Research Gets Boost

Memorandum of agreement signed to create Ontario poultry program team



Deborah Whale of the Poultry Industry Council, left, Deb Stark, assistant deputy minister, Corporate Services Division, Ontario Ministry of Agriculture, Food and Rural Affairs, and Prof. Roger Hacker raise a glass of eggnog to celebrate a memorandum of agreement signed to create a poultry program team.

PHOTO BY VERN MCGRATH

THE CANADIAN POULTRY industry is investing \$900,000 in an integrated teaching, research and technology transfer program at the University of Guelph.

Representatives of the Poultry Industry Council, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and the University signed a memorandum of agreement Dec. 22 to develop an Ontario poultry program team.

"This joint project will significantly enhance technological advancement by Canada's poultry industry through innovative research, teaching, technology transfer and associated services such as diagnostics, health surveillance and data collection," said U of G's director of animal research, Prof. Roger Hacker, Animal and Poultry Science. "This mission will support competitive and sustainable production in the context of the appropriate health and welfare of poultry, poultry production, management systems, and economic and environmental issues of the poultry industry, while at the same time ensuring premium food quality and maximal food safety."

A new faculty position and a bridging position will be created for a poultry pathobiologist in the De-

partment of Pathobiology and a poultry epidemiologist in the Department of Population Medicine. The Department of Animal and Poultry Science will maintain a poultry physiology position currently occupied by a faculty member.

OMAFRA will relocate the provincial poultry extension specialist to U of G and hire a poultry health management specialist, to be located in the Department of Pathobiology, to develop and implement a strategic plan for poultry health management.

"The Department of Pathobiology is excited about the potential for increased synergy among poultry researchers and enhanced links to the poultry industry created by this partnership," said department chair Prof. Patricia Shewen. "These appointments will augment our input in the education of DVM and post-graduate students in poultry health, to provide the next generation of veterinarians and researchers who will serve the poultry industry."

The poultry sector is a shining component of the Canadian agri-food industry, said Deborah Whale, chair of the Poultry Industry Council. Poultry consumption has risen sharply over the past decade and remains strong. Demand is expected to grow significantly in new markets.

"The potential for growth in the

poultry industry is excellent, and the need for leading-edge research and technology transfer to the industry is vital," said Whale.

Added Hacker: "This program will ensure that the Ontario poultry industry can respond to current and emerging health and management issues and the changing market and market conditions that currently exist and are expected to increase in the next 20 years and beyond."

Guelph has a long-standing and active poultry research program. Current expertise exists in feed substances, vaccines, proteins and disease resistance, nutrition, molecular biology, environment, product development, genetics, transgenics and behaviour.

"The Guelph team, as it exists now, is very sound scientifically," said Prof. Larry Milligan, vice-president (research). "The new team members will bolster the technology transfer and scientific resources required to make it further excel."

Toasting the industry at the Dec. 22 memorandum of agreement ceremony, provost Iain Campbell cited the collaboration as yet another example of Guelph's ability to work with outside partners to the advantage of both.

BY OWEN ROBERTS &
ALEXANDER WOOLEY

World Bank Economist Visits

KATRINE ANDERSON SAITO, a development economist with the World Bank in Washington, D.C., will visit U of G during the week of Jan. 24.

Born in Scotland and a graduate of the University of Edinburgh, Anderson Saito has 25 years of international experience and has worked on issues of economic development and gender in rural development in several African countries and Tur-

key. She also taught in Indonesia and is part of the international committee to create an "International Gender in Agriculture and Rural Development" consortium, which first met in the Netherlands last April.

While on campus, Anderson Saito will participate in the "Our World" series Jan. 25, discussing "New Gender Initiatives in Rural Development in Africa" at noon in Room 121 of the MacKinnon Build-

ing. She will also address a graduate seminar in the collaborative international development studies program Jan. 26.

Anderson Saito will also give a recital in the School of Fine Art and Music's Thursday noon-hour concert series Jan. 27 in Room 107 of the MacKinnon Building. A soprano, she will perform French and Hebridean songs accompanied by pianist Irene Gregorio.

New Technology for Sperm Sexing to Be Marketed Around the World

Gensel Biotechnologies Ltd. has entered into licensing agreements with three firms to market technology

AU OF G SPINOFF company has recently announced strategic alliances with three firms to assist in marketing its sperm-sexing technology to cattle and swine producers around the world.

Developed by Prof. Stan Blecher, Molecular Biology and Genetics (MB&G), the technology will allow producers to select the sex of offspring before conception by separating male- and female-producing sperm.

Jeremy Gawen, president of Gensel Biotechnologies Ltd., says the sex selection technology is "of tremendous importance" to livestock breeders and producers who use artificial insemination (AI) extensively. Noting that more than half of dairy farmers and swine producers already use AI for breeding, he says being able to pre-select the sex of offspring will vastly improve productivity.

Swine producers generally prefer females for their higher feed efficiency and quality. Dairy farmers need females for milk, and beef farmers prefer males for larger muscles, quality and feed efficiency.

"My research interest has always been in the genetics of sexual development, especially in humans," says Blecher, a medical doctor who worked at Dalhousie University Medical School before joining U of G in 1984 as director of the School of Human Biology (now the Department of Human Biology and Nutritional Sciences). He joined MB&G in 1991.

Shown 90-per-cent accurate in laboratory trials, his technology may find a ready market. Sales of sexed semen in countries within the Organization for Economic Co-operation and Development could be worth an estimated \$2.8 billion.

"The University owns the technology and the patent, but we have the worldwide exclusive licence for it," says Gawen.

Gensel, a spinoff company from U of G, was incorporated in 1996 and listed on the Alberta Stock Exchange in late 1997. Based in Toronto, the firm has offices and labs in the MB&G wing of the Axelrod Building.

Until 1998, Gawen had been U of G's director of business development. Blecher is Gensel's senior scientific adviser.

Earlier this year, Gensel entered into licensing agreements with three companies to market its sperm-sexing technology.

• The largest cattle-breeding group in the United Kingdom, Genus plc, has a non-exclusive licence to

use the sperm-sexing technology for cattle and the right to market the technology to other breeding companies in the European Union.

• Ridley Inc. based in Winnipeg holds an exclusive 18-month licence (non-exclusive licence after that) to use the technology for swine worldwide.

• Monsanto Co. of St. Louis, Mo., is helping to develop the technology. The company has the option for an exclusive licence to use the technology in cattle in the United States and Mexico.

The technology is based on Blecher's earlier identification and isolation of sex-specific proteins. By developing antibodies that bind selectively to female-producing sperm, he and his collaborators were able to separate male- and female-producing sperm.

No one knows why sex-specific proteins are present on the outside surface of cells. "It is still not generally accepted that there are sex-specific molecules on sperm cells," says Blecher, although he believes there are and suspects they help set the scene for establishment of the embryo's sex.

He says his approach is potentially more rapid and efficient—and less expensive—than existing invasive methods of sex selection, including expensive embryo sexing and transfer, or flow cytometry, which sorts individual sperm cells.

Both competing techniques require skilled technical assistance and expensive equipment, making them better suited to higher-value niche markets.

"Gensel's sperm-sexing technology should increase the probability of achieving the preferred calf or piglet gender to around 90 per cent," says Ridley president Ed Moloney.

Gensel received its first U.S. patent for the technology in late 1998. Other patent applications are now being processed in other countries, and further applications are in the works.

The company plans to conduct extensive animal trials at U of G. Once the technology is proven to work in field trials, Gensel will market the procedure to cattle and pig breeders.

"It's an exciting opportunity to be taking part in the early development of a new spinoff company working on a significant product," says Luis Martin, recently hired as Gensel's vice-president of research and development.

BY ANDREW VOWLES

THE REAL CANADIAN BRAIN DRAIN

"We have fallen prey to the view that it only matters if you can count it, measure it or test it."

BY WILLIAM FRISBEE

RECENTLY, I HAPPENED UPON a television program about Canada's "brain drain" to the United States. Much was made of the provocative but unsubstantiated claim that Canada's "best and brightest" were fleeing the country for greener economic and intellectual pastures south of the border. As I watched the program, I found myself becoming more and more annoyed with its blatant attempt to stir controversy by creating a major social "problem" where none exists. Much was made of the fact that Canadian taxpayers invest vast amounts of money to "educate" young people, the best of whom then take their skills and training to the United States.

Across the country, this is neither a new nor an unusual occurrence. It is well-known in every small and mid-sized community in Canada and the United States. Our best and brightest, educated at significant expense to local taxpayers, have always moved on to colleges and universities and then migrated to big cities or other centres of business, scientific, artistic or intellectual activity. Indeed, as painful as it can be from a personal and parental perspective, we have always encouraged the best and brightest of each generation to reach for the stars and to go wherever that quest might take them.

The focus of this particular TV program was on three specific sectors of the economy — the computer industry (broadly defined), scientific/medical research and show business. Beyond the implicit and utterly outrageous assumption that Canada's "best and brightest" are, by definition, systems engineers, computer programmers, scientific/medical researchers or entertainers lies the reality that Canada's best and brightest, whether in those industries or others, do not emigrate en masse to the United States or anywhere else. Some Canadians in some professions do migrate to the States and other countries around the world. And it's true that some of these people are very bright and very talented. But it's also true that some people, equally bright and talented, also immigrate to Canada from the United States and elsewhere. As an example, only one of the four youngest colleagues in our department is Canadian by birth. Yet every one of these four young people (Canadian and non-Canadian alike) is a world-class scholar who could pursue a successful academic or business career in the United States or anywhere else on the planet. Each chose to remain in or immigrate to Canada because this is where he or she found his or her opportunity. I have no doubt that other departments at Guelph and at campuses across the country could make the same statement. It is inaccurate to assume that Canada, despite its lack of size and economic power relative to the United States, is necessarily a second-class contributor to advancements in computer technology, scientific/medical research or anything else. What goes on here may, in fact, be smaller in scale, operate on smaller budgets and make a lesser "marketing splash" on the global scene than does what occurs in the United States. But these realities do not sustain a conclusion that what goes on here is second-rate and certainly do not sustain a conclusion that the people who do the work are second-class because all the "best and brightest" have headed south.

Of greater concern than the efforts of one television producer to make a big deal out of not much is that producer's decision to focus on computer technology, scientific/medical research and show business, and to define people who meet the dual criteria of working in these fields and having emigrated to the United States as Canada's "best and brightest." Nothing so simultaneously exploits and reinforces Canadian paranoia about its place in the world vis-à-vis the United States. And nothing so reflects the myopic short-term thinking that characterizes contemporary notions about what matters and what doesn't matter in Canada. This was underscored by the conspicuous absence in the TV program of even the vaguest reference to the fate of people involved in or activities related to Canadian history, politics, literature, music, dance, art and theatre (comedians being the singular exception) or to such transnational matters as religion, philosophy and environmental stewardship — all the "things" that collectively define and constitute the substance of Canada and its culture. Perhaps it is the producer's view that only Canada's "second-best and second-brightest" people are involved in such areas and that



their comings and goings are therefore of little concern or interest.

If the producer were genuinely interested in presenting a program that examined "brain drain" in an important and significant context, it might be one that addresses the impact on the country and the world of the incredibly short-sighted and increasingly narrow quasi-educational policies that prevail in Ontario and much of the rest of Canada. Certainly in Ontario, they are policies that devalue and underfund everything related to the nation's heritage and the well-being of global humanity, while maximizing support for programs designed to serve the business interests of multinational corporations. They are policies that encourage the University of Guelph to rationalize the demise of Canadian studies so that it can concentrate resources on those areas where it has *special expertise*, i.e., science and technology. They are the sort of policies that have made it easy (necessary?) for Guelph and other major universities across Canada and the United States to aid and abet transformation of undergraduate education from its overriding *academic* obligation to produce the broadly educated, enlightened, thinking citizenry necessary to preserve and sustain humane, democratic societies into *job-training* programs that increasingly serve the narrow short-term interests of global capitalism.

Across North America and around the economically developed world, publicly funded post-secondary educational institutions have systematically knuckled under to the political expediency of simplistic government agendas that are utterly devoid of vision, courage and character, and are based on the most egregious false premise that training people to work in global corporations is more important to the future of the country than a broadly educated citizenry. The "brain drain" that really matters is not migration out of Canada. It is the systematic *de-education* of the Canadian population and the manic rush to ensure that our university has a better plan for marketing its training programs than our "competitors" do.

The issue I raise is not merely one of personal preference. Its ultimate manifestation goes to the very question of Canada's and the planet's long-term future. The crucial distinction I wish to draw is between leaders and managers. Leaders, by my definition, are concerned with doing the right things, whereas managers focus on doing things right. Leaders are people of vision; people with a knowledge of national and world history; people who appreciate and understand the elements and collectivity of a nation's culture; people who have wrestled with the imperatives of morality, ethics and faith; people who have convic-

tion and integrity and an abiding personal sense of right and wrong (as opposed to an analytical measure of correct or incorrect); people who recognize that our economic system and its constituent organizations are ultimately intended to serve the needs of our collective society rather than the other way around; and perhaps most important of all, people with the capacity to look beyond today and envision both a realistic world of tomorrow as well as realistic means by which to achieve that world.

Nothing going on in either Canada's educational system or political system suggests that our current collection of educational and political "leaders" is much concerned about the emergence of the next collection. U of G students in those programs where we have *special strengths* and in programs such as commerce are routinely evaluated and rewarded on the basis of what they believe are the correct answers to specific questions rather than on the basis of what they believe are the right questions to be asking in the first place. In fact, as opposed to the rhetoric of convocation speeches, other events for public consumption and the prominent place accorded U of G's learning objectives in the undergraduate calendar, the concern for broadly based liberal education that so permeated this campus when I arrived 21 years ago is long gone. An educational philosophy that both supported and encouraged the type of liberalizing academic experience from which true leaders have traditionally emerged has largely been replaced by a concern with training better managers and scientists than our "competitors" in Waterloo, London, Hamilton, Toronto or Kingston.

Despite humble protestations to the contrary from the University Centre's fourth floor, the puffery associated with being named "best in breed" by *Maclean's* magazine is palpable. So is the overriding concern with our capacity to attract incoming students with more impressive high school grades (the ultimate academic red herring) than those of students who matriculate at "competing universities." We have fallen prey to the view that it only matters if you can count it, measure it or test it. We assess our performance as an institution in the same way we assess the performance of our students. We put numbers on everything and work like the devil to make sure our numbers are better than those of our competitors. How many Ontario Scholars? How many publications? How many dollars? How many grants? How many BIUs in that program? We are number one. Nonsense!

The concern is not how many bodies we can train to fit into a corporate niche or how we rate relative to others. Nor is it uniquely Canadian. The issue is *how well do educators educate?* The question is the same whether we are in Ontario, in some other province in Canada or in any economically developed country around the world that offers a credible post-secondary educational system. We are all in this thing together. The global community of educators must assume its responsibility to stand against those who make educational policy on the basis of political expediency and short-sighted political agendas. Our first obligation is to people and the societies they form. Our mandate at the undergraduate level is not to train but to *educate*. Our goal is to create an academic and intellectual environment conducive to the emergence of well-informed, knowledgeable voters; enlightened citizens with an appreciation for their own culture and history as well as the cultures and histories of others; and, one can hope, leaders — individuals who are concerned about doing the right thing for all of us for the long term.

In the final analysis, U of G will be an institution of genuine academic substance and integrity only when it comes to the realization that the quality of young adults who graduate from these historical halls each June is dramatically more important than the grades of teenagers who matriculate here each September. Our learning objectives should be more than high-sounding rhetoric. They should be the beacon that directs the entire academic mission of this university. There is no question that, in this regard, we have lost a lot of ground in the past two decades. The time to start recouping our losses is now.

Prof. William Frisbee is a faculty member in the Department of Consumer Studies.

A WRITER WITHOUT RESERVATIONS

Native author Thomas King will write anything he can get his hands on

BY MARY DICKIESON

THOMAS KING says he became a writer to impress a woman. He was a new faculty member teaching native American studies at the University of Lethbridge in the early 1980s, and she was a professor in the English department. When King's favourite recipe for macaroni and cheese casserole with sausage failed to impress her, he took desperate measures. He showed her a 10-year-old attempt at poetry.

King thought she was encouraging. "Not bad," she said. So he wrote a short story. "Not bad," again. So he wrote another story. By the time he had enough stories to fill a book, they were a couple.

Today, King and Prof. Helen Hoy have offices across the hall from each other in U of G's School of Literatures and Performance Studies in English. He admits he's still trying to impress her. She is his first reader and best editor, although his repertoire has expanded a lot since his casserole days. Since the publication of his first book, *Medicine River*, in 1990, King has written two more novels, a few children's books, numerous short stories, and scripts for television, film and a weekly CBC radio program. He can't quit.

King says Hoy gave him a reason to start writing and he knows he will never stop, but he can't really explain why he writes, especially why he writes novels. It's not for the fame — although *Medicine River* was runner-up for the 1991 Commonwealth Prize and was made into a TV movie; *Green Grass, Running Water* was shortlisted for the Governor General's Award in 1993 and won the Canadian Authors' Award for fiction; and his newly published *Truth and Bright Water* has received rave reviews across the country.

And it's not for the money. Compare two weeks of work on a one-hour television script that could earn \$23,000 in Canada to the years spent writing a novel that might bring a \$35,000 to \$40,000 advance. "What drives a writer to write novels is not money," says King. "It's something else. I suppose it's an addiction; maybe it's a desire to re-create the world."

You sense a little of that desire as he talks about *Truth and Bright Water*. Like his earlier works, this is a story of native people, set in the prairies in what one reviewer has called "the land of broken dreams." The reviewer is close to King's assessment of himself: "I'm a pessimistic writer. I hope I'm wrong about the view I have of the world. I don't believe I'm wrong, but I hope I am."

This book is the story of young cousins Tecumseh and Lum, who live in Truth, a small American town across the border and the river from the Bright Water Reserve. Like all of King's characters, Tec and Lum are products of the sometimes tragic lives of native people, and they are completely vulnerable to his words and the reader's sensibilities.

King tells us up front that the book ends without answering the final question. It's not his job to give you all the answers. In



fact, Thomas King the creator of this story doesn't have the answers. Although he maintains that a writer must have total control over his characters, he says he never knows how a novel will end when he begins writing it. His portrayal of native people often presents social, economic and political issues that may lie beneath the surface of our consciousness. His purpose is to remind us, ask the questions and leave us to answer how we affect and are affected by the burdens that native people carry.

What King does know about his novels is their rhythm. "I look at my novels as musical pieces, symphonies." He hears tonal changes within a sentence, hears the story speed up, slow down or shift from a major to a minor key and back again. He'll spend hours looking for a word that has the right vowel sound and crafting words into sentences and paragraphs with just the right rhythm.

Some readers might see the fluidity in King's work as less a symphony and more a painting. His careful word search produces a descriptive narrative where wasted words would block the view like a misplaced tree in a painting of prairie landscape.

Born in Sacramento, Calif., King had travelled the world as a photojournalist, but had never seen the prairies before moving to Lethbridge. He left them a decade ago, first for the pastoral scenery that claims the University of Minnesota and, since 1995, for U of G, but says he still feels connected to the endless and waving prairie. "Ugly as sin and magical," he says, "there is nothing like the light on the prairies. You feel as if you're in a vast expanse of land with no one else around you, even though there are people all around you. The landscape is etched on the creative part of my mind."

So it was the prairies that gave King the inspiration for his

writing, as Hoy gave him the reason, and the Blackfoot Indians of Alberta gave him the subject.

King himself is of Cherokee and Greek descent and has built relationships with many groups of native people in North America, from California to Utah, where he completed his PhD in native studies. In Alberta, he played native baseball with the Blackfoot, listened to their stories and saw the way their culture governs the way they treat people. He was impressed by their society, and the homeland of Alberta's Blackfoot and Cree Indians became the setting for King's stories.

Friendliness is a native virtue that King admires and is probably the first thing CBC radio listeners think about when they hear Jasper the Friendly Bear and Gracie Heavy Hand in King's *Dead Dog Café Comedy Hour*. Now in its second season, the show airs Thursday mornings at 10:30 a.m. and Saturdays around 11:30 a.m. It's obviously a project that King enjoys because he puts aside his fear of flying to travel to Edmonton for taping sessions.

Another project that may get him back on a plane to Edmonton is a photo exhibition planned at the Edmonton Art Gallery this fall. King is one of five artists

who will take part, his installation inspired by recommendations from Canada's Royal Commission on Aboriginal People that bring to his mind a reference to the Ten Commandments. He will spend the summer photographing native children for a series of murals that he refers to now as the *Ten Little Indians*. Photo satire is part of the goal. King wants his photos to tell a story and make a statement. He has been pursuing two major photography projects since the early 1990s. One is a series of portraits of Indians across North America. Many of his subjects donned a Lone Ranger mask to give an Indian answer to the real identity of the western hero on a white horse. He's also trying to find a publisher for a collection of photos titled "Indians on Vacation" that show native people posing in front of familiar U.S. tourist destinations like Custer's monument in Wyoming and the baseball stadium in Cleveland.

Like his writing, King's photography can be very witty. Think about it a little more, and you may see something else.

That's the same message King delivers to students in his U of G literature classes. He cares little about the amount of information students pick up in his class; he just doesn't want them to throw the assigned books into the garbage when they leave.

King would like his students to use literature as another window on the world — just like politics, sociology, history, art and other disciplines. He likens academic studies to looking at the MacKinnon courtyard through different windows of the building. The view is the same, but the perspective makes all the difference, and those who know how to think will see and understand the differences.

Which window is King looking out now? The music has begun, and two chapters of his next novel are already written.

PHOTO BY BRIAN PALMER/THE SCENARIO

Land Mine Radar Device Wins Award

Engineering students design more user-friendly, hand-held form of ground-penetrating radar

U OF G ENGINEERING students captured second place in Mines Action Canada's (MAC) inaugural design competition with suggested improvements on a hand-held radar device used in detecting buried land mines.

The Guelph trio — recent graduates Sarah Dawkins and Pierre Paquette and fourth-year student Marc-Antoine Joly — considered several possible technologies before focusing on designing a more user-friendly, hand-held form of

ground-penetrating radar. Their design, for use in post-conflict countries, could also detect booby traps, unexploded bombs and other explosive devices.

Contest rules required entries in the humanitarian land mine and detection and removal technology research competition to be suitable for community-based humanitarian mine clearance. Unlike military applications, which involve costly equipment and operators, humanitarian de-mining relies on hand-

held detectors and manual probes.

"The competition was initiated by the growing international concern over the increasing number of civilian deaths due to land mines, which sparked the creation of a treaty banning the use and development of land mines and asked for the destruction of laid or stockpiled mines," says Joly.

Each month, land mines kill or maim an average of 2,000 people worldwide. Minefields prevent refugees from returning to their homes

and make everything from pastures to roads and bridges unsafe.

"Mines are in fields where people plant their food, in playgrounds where children play," says Prof. Bob Dony, Engineering, who served as faculty adviser to the Guelph team. Along with fellow U of G engineers, he is investigating the use of robots to detect and remove mines.

In the MAC competition, teams submit research papers on various mine-clearance activities from surveying and detecting to destruction.

Last year's inaugural contest was a pilot; this year's competition is open to all universities across Canada.

"It's a good match with our multidisciplinary programs here," says Dony, explaining that the field draws on various strengths in Guelph's engineering programs, including engineering systems and computing, environmental engineering, biological engineering and water resources engineering. "You can't just look at the problem from one angle."

BY ANDREW VOWLES

LETTERS

SCIENTISTS SHOULD HEED OWN SUGGESTION ABOUT RESPONSIBLE DIALOGUE

I wish to comment on the "Insight" article "In Support of Biotechnology" in the Nov. 24 @Guelph. I find the statement, which the article alleges was signed by more than 100 leading Canadian scientists, to be misleading. I wish to comment on a number of points in the article and thereby take up the scientists' suggestion that Canadians "participate in a dialogue about the technology's potential."

In the first two paragraphs, the statement says the dialogue should be based "on sound science, on facts and on the results of peer-reviewed research" and not be influenced by "unfounded speculation and discredited science." The statement suggests that we need to use biotechnology, that is, genetic engineering, in food production to provide enough food to feed the world's fast-growing population. It also says "we cannot afford" to let the potential of genetically engineered food be lost due to "misinformation or fear disseminated by those with other agendas."

There are a number of points to be made about this statement. First, the decision whether we should or should not use genetic engineering to produce food or other agricultural products cannot be based solely on facts established in peer-reviewed scientific journals. Decisions such as this are based on value assumptions as well as judgments of fact. The scientists who signed the statement are apparently committed to the value assumption that increasing food production is good or desirable. They are also committed to value assumptions about the quality of the safety assessments done in Canada and elsewhere. It is these value assumptions that form part of the basis for their conclusions about the value of genetic engineering in agriculture. But their statement tries to give the impression that the decision they favour in this matter is not based on anything but scientifically established facts. This is not the case, however.

Second, I agree that decisions should be based on the most reliable information available to us, and I agree that it is of great value to produce sufficient nutritious and safe food for human beings (and agricultural animals). But there are other important values to be taken into account as well. For example, we need to be concerned about preserving a sustainable environment so we can continue to produce food for the foreseeable future; we need to be concerned about the farmers and other people of developing nations who will be affected by the development and implementation of biotechnology.

Will the development of genetically engineered food products undermine the independence and food self-sufficiency of people around the world? If so, is that a de-

sirable state of affairs? What will be the consequence of genetic engineering in food production on farmers in Canada? Will this technology force more of them to lose their farms to large corporate farms?

Will farmers of necessity have to buy their seed from corporations such as Monsanto rather than produce their own? If so, is that a desirable state of affairs? As rigorous as the safety assessments done by Canadian regulatory agencies are, they are rather short-term assessments. Have there been scientific studies that assess the effects of using genetically engineered foods over periods of 20 years or more? Have there been studies of the effects of such food on developing human fetuses? Have there been studies of the effects of such food on people with allergies or elderly people?

If the studies of genetically engineered foods are comparable with studies concerning the safety of chemical pesticides, then the answers to these questions are negative. But insertion of genes into the complex genomes of food crops may reasonably be expected to have unanticipated effects, and in light of this, thoughtful long-term studies of consequences on human health and on the environment are, in my judgment, worth the price. Without such studies, we are taking both health and environmental risks on the basis of, again in my judgment, information bases that are too small to warrant trustworthy claims about safety and health.

The statement signed by the scientists refers to alleged agendas of those who oppose genetic engineering. What are those alleged agendas? Are they agendas of people concerned about food self-sufficiency, sustainable environment, long-term food safety or the enormous power of large corporations to dictate the way Canadians live in the future? The statement implies that we should distrust those agendas they refer to. But the agendas I have mentioned reflect values that, I believe, many Canadians share. Should not these values be seriously considered before jumping to decisions about implementing these powerful new technologies?

The scientists' statement says we should avoid "rhetoric," but we may ask what they mean by this. If they would say that a public statement engages in rhetoric if it is one-sided and incomplete in its discussion, then I would say that the scientists' statement is a piece of rhetoric. I would have had more respect for their statement had they thoughtfully considered all of the relevant facts and values, but they did not do so.

There has been much discussion of the value judgments that underlie implementation of new technologies — discussion by competent, thoughtful scientists and scholars. The scientists' statement appears not to have been influenced by such discussion. I would like to suggest that the scientists in question follow

their own suggestion about responsible dialogue. They should try to address the thoughtful arguments of those who disagree with them instead of claiming (falsely in many cases) that those who disagree are either woefully ignorant or have some insidious agendas.

Hugh Lehman
Emeritus Professor
Department of Philosophy

IS PEER REVIEW MERELY MUTUAL SELF-SUPPORT?

As a past and present member of the boards of referees of journals and the Social Sciences and Humanities Research Council, I was somewhat taken aback by a declaration "In Support of Biotechnology" published in @Guelph Nov. 24. It purported to come from "a national coalition of more than 100 leading scientists," but the declaration was accompanied by no identification of scholarly affiliation or any researchers' names.

The declaration avows a commitment to "the results of peer-reviewed research," but provides no peer-review body of any sort with which it is associated or to which its claims are accountable.

One wonders whether the "peer-review research" that the nameless declaration and signatories uphold against the "unsubstantiated rhetoric" of critics of the profit-driven biotech industry is not itself "unsubstantiated rhetoric" without any normal peer-review substantiation.

One wonders, further, whether what is presented as the scholarly standard of "peer review" that confers academic legitimacy on this work is, in fact, merely the mutual self-support of scientists funded by private industry for agribusiness goals with none of the standard peer-review constraints of external assessment by independent scientific bodies and scientists who are not themselves beholden to these special commercial interests.

One wonders in the end whether the rest of the research community on campus is not having the wool pulled over its eyes by a public relations campaign of "peer review" pretense orchestrated by people and bodies representing interests and commitments external to the University.

Prof. Terisa Turner
Sociology and Anthropology

UNIVERSITY SUPPORTS GOOD URBAN DESIGN

I am responding to Maggie Laidlaw's letter to the editor in the Dec. 8 issue of @Guelph regarding the City of Guelph's Stone Road commercial node urban design study. It is unfortunate that Ms. Laidlaw did not contact me before writing the letter to determine the content of the discussions that have been ongoing between city officials and the University regarding these proposed guidelines.

U of G has made it clear to city

staff from the outset that it supports good urban design. This is evident in the design of the Research Park and Edinburgh Market Square on Stone Road. Indeed, the study itself cites the Edinburgh Market Square as a very good precedent for appropriate street/building relationships. The University, through its Real Estate Division, worked very hard with the developer of the Edinburgh Market Square on its design. U of G will continue to support good urban design in any future development on University lands.

U of G has provided comments on the study to city staff, and many of our suggestions for revision have been adopted. The major difference of opinion between city staff and the University is the timing of the adoption of the study. U of G believes this should be deferred until the rezoning application now before the Ontario Municipal Board has been concluded. At its Dec. 20 meeting, city council agreed to defer consideration of the study until Jan. 30, 2000.

I would like to assure Maggie Laidlaw and other members of the University community that in our discussions with potential tenants on the lands for which rezoning is being sought on Stone Road, we will continue to insist on adherence to good urban design principles.

I would encourage Ms. Laidlaw to call me for the University's perspective, rather than rely on media reports in the *Mercury*. Letters to the editor could then be based on fact and not press reports, which also did not include any conversation with the University.

Nancy Sullivan
VP (finance and administration)

THANKS FOR YOUR HELP!

As co-ordinators of U of G's entry in the City of Guelph's 1999 Santa Claus parade, we would like to thank all those who volunteered their time to participate in this effort.

We wish to recognize the contributions of John Diefenbaker of the Arkell Research Station and Ken Kron of Grounds, OAC alumnus Brad Lunn and the following undergraduate and graduate students: Andrea French, Sarah Kenning, Kara Lammers, Khari Friske, Stephen Woods, Brenda Lennox, Jordan MacLean, Tracy Caswell, Lindsay Fischer, Laura Scott, Nicole Munroe, Dave McEachren, Tim Willick, Chad Bowman, Adrienne Colwell, Arlene Fraser, Jared French, Kevin Ego, Jason Cathcart, Shawn Winter, Ed Janssens, Sally Vail and Penny de Vos.

Janine Fraser, Tim Gawn
and Tim Caldwell

* * *

@Guelph welcomes letters to the editor. They should be limited to 500 words, signed by the author and submitted electronically. @Guelph reserves the right to edit letters for length, style and clarity. Submit letters to Barbara Chance at bchance@exec.admin.uoguelph.ca.

Service Learning Focus of Talks

AMY DRISCOLL, director of teaching, learning and assessment at California State University at Monterey Bay, will discuss service learning during two workshops at Guelph Jan. 26.

Previously director of community/university partnerships at Portland State University, Driscoll has spoken extensively and published widely on the assessment of service learning and the scholarship of service.

Her Guelph presentations are part of a series of instructional development workshops being held this semester by Teaching Support Services (TSS) and Student Leadership and Involvement. She will discuss "Universities in the Community: Learning and Scholarship Through Service" from 10 a.m. to noon in Room 103 of the University Centre and "Building Service Learning Into Your Course: A Practical Tutorial for Faculty" from 2 to 3:30 p.m. in Room 125 of Day Hall.

For more information, visit the TSS Web site at www.tss.uoguelph.ca or contact Susan Rinkus at srimkus@uoguelph.ca or Ext. 3107.

Visionary Seminar Jan. 25

THE OFFICE for Partnership for Advanced Skills (OPAS), in collaboration with U of G's Office of Open Learning and the Guelph Chamber of Commerce, presents the video conference "Visionary Seminar 2000" Jan. 25 at 11:30 a.m. at the Arboretum Centre. The video conference will feature John Cleghorn, chair and CEO of the Royal Bank of Canada, who will discuss "The Future of Financial Services in the New Economy."

This annual event is presented by OPAS, an agency within the Council of Ontario Universities. Virginia Gray, director of the Office of Open Learning, is a member of the OPAS board of directors.

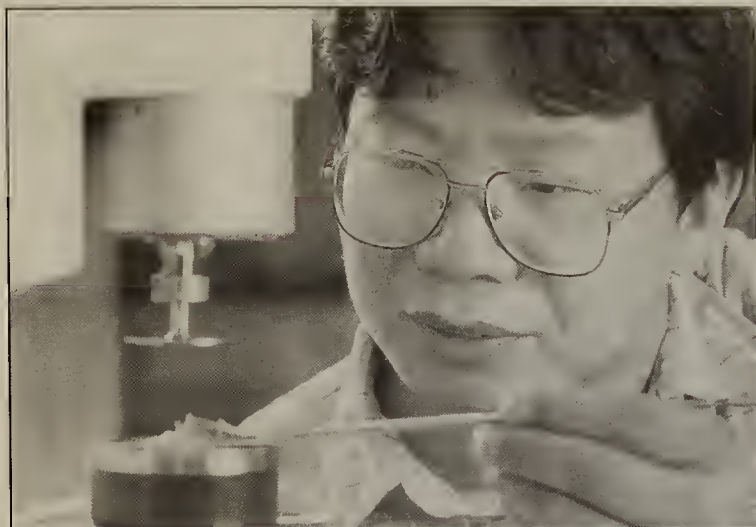
OPAS and its university partners sponsor the seminars to give faculty, students and local business leaders an opportunity to hear the views of a recognized business visionary.

The broadcast will originate from Wilfrid Laurier University, where Cleghorn is chair of the Board of Governors. It will be down-linked to a number of Canadian universities.

At U of G, Prof. John Walsh, associate dean of the Faculty of Management, will chair the proceedings. A question-and-answer session will follow. Admission is free, but registration is required, and seating is limited. For details, call Ext. 3064.

Mustard Passes Muster

New yellow mustard compound might be food-processing fix-all



Steve Cui is looking for new ways to incorporate mustard compounds into food processing.

PHOTO BY MARTIN SCHWALBE

MUSTARD. It's not just for hot dogs anymore. The beneficial qualities of mustard — including reduced blood cholesterol and glucose levels — might soon make their way into more foods, as researchers find new ways to incorporate mustard compounds into food processing.

Agriculture and Agri-Food Canada (AAFC) research scientist Steve Cui, who works with the food research program in Guelph and is also a special graduate faculty member in the Department of Food Science, combined yellow mustard mucilage (YMM) — a water-soluble dietary fibre component that makes up five per cent of yellow mustard seed — with locust bean gum (LBG), a popular stabilizing agent in the food industry.

The result: yellow mustard gum. Cui says it has viscous and gelling properties 20 to 30 times that of the original starting materials. That makes it useful as a stabilizer and texture-improving agent in processed foods.

"This is an exciting discovery," says Cui. "The interaction of yellow mustard mucilage and locust bean gum allows us to produce a product that is both extremely effective and cost-efficient."

Cui's experiments with varying ratios of YMM and LBG in yellow mustard gum found the optimum product contained nine parts YMM to one part LBG. This is important because LBG is expensive and produced in small quantities. On the flip side, yellow mustard is one of the major condiments produced in Canada, and mustard seed is available at low cost.

Yellow mustard gum can be used as a stabilizer and texture-improving agent in foods containing both oil and water, such as salad dressings and mayonnaise. Oil and water differ in density (weight), polarity (charge) and viscosity (rate of flow), making it difficult to keep them from separating when they're combined in a food product. Yellow mustard gum greatly increases the overall viscosity of the total oil-water

mix, resulting in a uniform and stable product.

Yellow mustard gum can also be used in processed meats, which tend to "sweat," making them unappealing to consumers. Because the gum has excellent gelling and water-binding qualities, it can absorb excess moisture when added to processed meats.

Locust bean gum is already widely used on its own as a stabilizer in the food industry. For example, it's added to ice cream to prevent ice crystal formation. But when combined with YMM, it's not only more effective and less expensive, but it also gains the added health benefits of the yellow mustard seed, says Cui.

He plans to conduct further experiments with potential applications of yellow mustard gum. Possible uses include skin lotions and cosmetics.

This research was sponsored by the Ontario Research Enhancement Program.

BY ARIANA MURATA
OFFICE OF RESEARCH

Biotechnology Not Harming Monarch Butterfly, U of G Field Study Finds

Pollen count on food plant of caterpillars
not high enough to harm butterfly larvae

THE MONARCH BUTTERFLY is alive and well, despite reports that biotechnology is threatening it, says a U of G researcher.

Prof. Mark Sears, chair of the Department of Environmental Biology and the Canadian Corn Pest Coalition, conducted field research on pollen from Bt corn containing *Bacillus thuringiensis*, a naturally occurring soil-borne bacterium that selectively targets specific groups of insects. His preliminary findings show that the pollen is not found in high enough doses on most milkweed plants (the food plant of Monarch caterpillars) to hurt the butterfly's larvae.

"Bt corn has always been shown to be harmless to both humans and animals," he says, "and we now know it isn't a major threat to the Monarch butterfly."

An earlier U.S. study had claimed that pollen from Bt corn damaged Monarch butterfly larvae. This sparked a media frenzy and public concern about genetically modified foods. But Sears says the U.S. study didn't demonstrate to what extent its preliminary findings applied to field situations. The study was completed in a laboratory, and the dosage of pollen used wasn't reported.

"The actual threat to the Monarch butterfly can only be determined by assessing the dosage that affects the larvae and their degree of exposure to Bt-corn pollen in the field," he says.

Sears is leading a two-year project to determine the ecological effects of Bt-corn pollen on selected non-target butterfly species, including the Monarch. So far, studies indicate that Bt corn is not as big a

threat as environmentalists and the news media had anticipated.

"Outside of corn fields, you probably wouldn't find concentrated dosages of pollen because wind and rain remove it from the surface of the milkweed leaves," he says.

His study focused on Bt pollen and how far it travels. He examined milkweed stands in corn fields, at their edges, then at distances of five, 10, 25, 50 and 100 metres away. He found that within the fields, about 150 pollen grains/cm² were found on milkweed leaves. At the field edges, 80 to 100 grains/cm² were found, and at five metres, only one grain/cm² was found.

He then compared these findings with values obtained from a "dose-response assay" — from which data of increasing doses are plotted against increased mortality rates — to determine dosages with negative effects on Monarch butterfly larvae.

Results show that 135 grains/cm² — the lowest dosage he has tested on milkweed leaves so far and similar to that found on milkweed leaves in the field — had no greater effect on Monarch larvae than when they were fed non-Bt pollen.

"Our findings are consistent with other studies across North America," Sears says.

Also participating in this study are research associate Diane Stanley-Horn and research technician Heather Mattila, as well as seed industry representatives and corn growers. This research is sponsored by the Canadian Food Inspection Agency and Environment Canada.

BY JESSICA WHITMORE
OFFICE OF RESEARCH

Economist Compares Liability Law and Regulations

Liability or property rights system gives citizens a strong role in the process, but it can be chaotic and expensive

POWER TO THE PEOPLE. Armed with a recent grant from the Social Sciences and Humanities Research Council, Prof. Ross McKittrick, Economics, is investigating whether polluters ought to be taken to court by the very people whose lives are affected by the polluters' activities.

The idea isn't new. In the 19th century, "nuisance" laws allowed a landowner to sue someone who damaged his property. This liability system based on individual rights was replaced in the 1950s by a regulatory system, says McKittrick.

"Rather than individual property or liability rights, companies today are controlled by layers of govern-

ment regulations," he says, "but the debate continues as to whether this system is more effective at curtailing pollution than the liability model is. The liability or property rights system gives citizens a strong role in the process, but it can be chaotic and expensive. On the other hand, government regulation leaves citizens out and tends to be blunt and inefficient. Basically, we have an imperfect regulatory system and potentially an imperfect liability system. Our task is to decide which imperfections we can best live with and eventually to come up with better alternatives."

To settle the argument, McKittrick is designing a behaviour-based model to see which system is

more beneficial to society.

"With the liability system, if pollution closed Toronto beaches in the summer, or a pulp mill in northern Ontario forced the shutdown of a fishery further downstream, you would be able to go to court and get an injunction to get the polluters to stop, on the grounds that their business was injuring you."

His model would examine the type of choices polluters and those affected by pollution make, and from there, he would develop a thesis around which system makes the most sense for society as a whole.

There are pitfalls with both. Some governments have moved to layer new forms of environmental liability

on top of existing regulations, says McKittrick.

"These policy instruments don't always work well together and can be more costly than either system alone."

He also worries that liability law may encourage some to put themselves in harm's way. "For example, should people who choose to build a house near Pearson Airport in Toronto be allowed to sue for noise damages? If we permit this kind of litigation, we may incite costly lawsuits for damages that could have been avoided by building a few miles away."

For McKittrick, this is well-trodden ground. His specialty is ex-

amining the relationship between economic activity and the quality of the environment. To do so and produce workable answers that can be applied in society, he must walk a tightrope held at either end by parties fundamentally opposed to one another.

"My challenge is designing economic policies and incentives that can achieve environmental and scientific outcomes, that are cost-effective and that achieve these aims in the least disruptive way for all concerned."

He expects to have results from this latest research project next fall.

BY ALEXANDER WOOLLEY

Y2K Is A-OK!

University experiences only minor glitches with the rollover to the new millennium

"Y2K-A-OK" was the sentiment among Computing and Communications Services (CCS) analysts monitoring U of G's computer systems during a virtually problem-free rollover to the new millennium, says Doug Blain, chair of the University's Year 2000 Committee.

Apart from minor problems that were easily resolved during the New Year's Eve weekend or in the first week of January, U of G's lengthy and painstaking preparations for the much-heralded date change paid off, says Blain. "The search for Y2K problems was soon a contest of finding any problems at all."

He was among eight CCS staff who spent most of New Year's Eve and part of the ensuing weekend monitoring campus computing systems, receiving reports from various application users and listening to

newscasts from around the world.

"Once we started seeing reports coming in from New Zealand, Australia and Southeast Asia that no one was having any problems, there was a collective sigh of relief."

Blain says the smooth rollover reflected preparations begun about five years ago that resulted in computer hardware and software across campus being made Y2K-compliant by the end of 1999 and plans being laid for responding to any Y2K-related problems. That activity took place under the leadership of CCS and the Year 2000 Committee, which consists of representatives from various units across campus.

The committee will hold its final meeting this month to review Blain's report on Year 2000 status, which will then be presented to Executive Group. That document will include summaries of reports from major

computer system users on campus, as well as several recommendations for the University.

Blain notes that an inventory of all U of G's computing assets and systems was completed late last year in anticipation of the date change. "That's something we should keep up-to-date," he says. "If we ever have some kind of event, we have a good handle on our exposure."

Adding that the University also drafted an emergency response plan, he says: "We have gone through the planning exercise of what to do in case of a disaster and that should stand us in good stead for any future problems."

Among relatively minor computing glitches experienced in the first week of the new year, Security Services found a problem with the hand-held devices used to issue parking tickets; tickets were showing

a date of 1900 instead of 2000. Staff were able to correct the date on the PC before printing the tickets until the manufacturer fixed the problem.

"With confidence we can say there are no major Y2K problems anywhere," says Blain. "It's hard to tell the difference between a Y2K bug and a regular bug — it's becoming that level of noise."

So was all the preparation necessary? "Absolutely. Several systems were shut down prior to the New Year since they were known to have problems that would have made them unsupportable. When you're dealing with systems that are critical

to the business of running the University, half measures and good intentions are not an adequate approach to take to make sure they continue to function properly. You have to plan for the worst and hope for the best."

"The efforts of a lot of staff who have worked long hours to make the changes necessary to ensure a continuation of critical services have been a success. The planning has also resulted in some upgrades and improvements to services that would have taken a lot longer to implement without an enforced deadline."

BY ANDREW VOWLES

Dean to Explore New Initiatives

Continued from page 1

overseeing U of G's 26 doctoral and 49 master's programs, providing accreditation information on those programs to the Ontario Council on Graduate Studies and administering about \$1.5 million a year in University graduate scholarships and research scholarships.

About 1,670 graduate students are enrolled at Guelph this year, up from last year's 1,540 but below the high-water mark of 1,805 students in 1994/95.

Calling Guelph a leader in graduate programs among Canadian universities, Heathcote cites the example of U of G's pioneering alternative admissions policy,

which has resulted in up to half of students in certain programs being admitted from backgrounds other than conventional undergraduate studies.

Among current initiatives, the Faculty of Graduate Studies is exploring opportunities for new graduate co-op programs, modular diplomas that students could accumulate toward a graduate degree and provision of graduate programs in the workplace.

Citing U of G's recent first-place Maclean's ranking, Heathcote says: "We're famous for our student-centred approach at the undergraduate level, but there are fewer

support programs tailored to graduate students."

She is exploring several such programs with other members of the University community, particularly the Graduate Students' Association. Her office recently introduced a system of graduate peer helpers to parallel the current undergraduate peer program, and she hopes to begin a graduate student mentorship initiative over the next year.

Heathcote also plans to continue her research, which involves studying aspects of water management. She recently received a grant to model the effects of farm runoff on water quality in the Grand River.

Book Joins Collection

Continued from page 1

acted to having their husbands, sons, brothers and sweethearts away in Europe fighting under terrible conditions."

It is also the only original full-length holograph of a Montgomery novel in Ontario, where she wrote most of her books. The rest are housed in the Confederation Centre Art Gallery and Museum in P.E.I., where Montgomery was born and raised. The author of 20 novels and 500 short stories, she moved to Ontario after marrying Presbyterian minister Ewan Macdonald in 1911.

Woods acquired the manuscript from a member of the Macdonald family as a gift when she was a creative writing teacher. "It was a thrill to actually have it in my hands," she says. "My students were also very excited. Most of them had read the *Anne* books and were thrilled to have a chance to see her actual handwriting."

"As a writer, I found it wonderful

to see the changes she made as she went along, the things she had written in the margins. It makes you feel good as you're going through the process of writing to see that someone who was a famous writer did the same thing."

Woods says her family chose to donate the manuscript to U of G because of their connections to the University. Her husband, Murray, is a 1956 OAC graduate. Their son Douglas graduated in 1978, and their nephew Bill Woods graduated in 1973. Bill's daughter and nephew are currently enrolled.

This month, the library is also housing a special exhibit called "The Visual Imagination of Lucy Maud Montgomery." It includes 156 prints chosen from the library's collection for an exhibition organized and circulated by the Confederation Centre Art Gallery and Museum, with support from Heritage Canada.

BY LORI BONA HUNT

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IN THE NEWS

A Nov. 27 *Toronto Star* article about the 10th anniversary of the Montreal massacre quoted School of Engineering director Lambert Otten about U of G's receipt of the inaugural Women-Friendly Engineering Schools/Faculties Award from the Canadian Engineering Memorial Foundation. The award and the School of Engineering were also featured on CBC Radio's *Ontario Today* Dec. 6. The program included interviews with Prof. Valerie Davidson and master's student Shelly Bota-Jellock. Davidson, Lambert and engineering academic counsellor Laura Thomas were also interviewed for a Dec. 23 *Globe and Mail* article about the award and the number of female students enrolled in engineering programs.

Prof. Doug Powell, Plant Agriculture, was interviewed by about a dozen CBC-affiliate stations Dec. 1, talking about the auditor general's report on food contamination and food poisoning. Powell also wrote two opinion pieces that appeared in the *National Post* last month — one on McCain Foods' ban of genetically modified foods Dec. 4 and one on biotechnology Dec. 31. The latter mentioned research by Prof. Mark Sears, Environmental Biology, that shows pollen from Bt corn is not affecting the Monarch butterfly. Sears's work was also fea-

tured in the Jan. 6 issue of the *Globe and Mail*.

Prof. Mike Dixon, Plant Agriculture, appeared on CBC Radio's *Quirks & Quarks* Dec. 4, explaining why poinsettia plants turn red.

Prof. Doug Goff, Food Science, was featured in a Dec. 8 article distributed by Torstar News Service and printed in the *Toronto Star*. The article focused on Goff's annual ice cream technology course.

Research by Prof. Patricia Shewen, Pathobiology, on edible animal vaccines was featured Dec. 20 on CTV's national news.

On Dec. 22, CBC Radio's *Ontario Today* featured an interview with Prof. Michael Haywood, HAFSA, on how customer service holds up during the holiday season. The program included a listener call-in segment.

Arboretum horticulturist Henry Kock was quoted in a Dec. 27 *Globe and Mail* article about the future of trees and urban planning.

Prof. Michael Ruse, Philosophy, was quoted in a Dec. 29 *Globe and Mail* article about the past 1,000 years of science and what the future holds. He also wrote a review of the book *Lucy's Legacy* that appeared in the *Globe* Dec. 24.

U of G's Hagen Aqualab was featured on CBC Radio's *Ontario Today* Dec. 30. The segment included interviews with zoology professor Denis Lynn and Aqualab manager Robert Frank.

U of G's "Unwind Your Mind" program, designed to help students deal with stress during exams, was mentioned in a Dec. 21 *Toronto Star* article about students' study rituals.

The Jan. 5 issue of the *Globe and Mail* featured an article about Prof. Judith Thompson, Drama, her latest play and her family life.

Prof. Danny Butler, Clinical Studies, was quoted in a Jan. 10 *Maclean's* article about replacement organs and tissues that will come from animals and cultured human cells. The article focused on U of G and other universities working on transgenic developments.

The Jan. 11 issue of the *National Post* featured an article about a donation of an L.M. Montgomery manuscript, *Rilla of Ingleside*, to the U of G Library. The story quoted Bernard Katz, head of special collections and library development, and English professor Mary Rubio. The article was circulated by Canadian Press, and the story aired on local and national television and radio.

Nominees Sought for Alumni Awards

THE U of G Alumni Association invites nominations for its three annual awards of excellence.

The Alumnus of Honour award celebrates the achievements of alumni who have brought great honour to the University through professional, community and personal endeavours. The Alumni Medal of Achievement recognizes a graduate of the last 15 years who has achieved excellence through contributions to country, community, profession or the world of arts and letters. The Alumni Volunteer Award honours

alumni who have demonstrated loyalty and commitment to U of G through their volunteer work.

The nomination deadline for these awards is Feb. 11. Send nominations to Mary Ann Grape, chair of the UGAA Honours and Awards Committee, at Alumni House. Nominees will be recognized June 17 during Alumni Weekend.

Nomination materials are available from Carla Bradshaw at Alumni House, Ext. 6657, fax: 519-822-2670 or email: carlab@alumni.uoguelph.ca.

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Huge, bright master bedroom in home shared with two working professionals and two cats for quiet non-smoker with no pets, semi-private facilities, Willow West area, close to bus stop and mall, \$375 a month inclusive, 824-7860.

Three-bedroom home in quiet neighbourhood close to downtown, fenced yard, gas heat, central air,

\$1,000 a month plus utilities, non-smokers, available July 1 for one year, Ext. 4935 or 836-6435.

WANTED

Exchange student from Germany with two teenage children needs furnished house or apartment from August 2000 for a year, Kenneth, Ext. 3246, 824-9927 evenings or send e-mail to kwgraham@uoguelph.ca.

New faculty member with wife and child seeks two-bedroom house or apartment for about one year, close to campus, Pam, Ext. 2483.

Woman's right-handed golf clubs, Norma, Ext. 3605.

AVAILABLE

University student will walk your dog, downtown area, reasonable rates, 836-0393.

Classifieds is a free service available to staff, faculty, students, alumni and retirees of the University. Submit items to Linda Graham on Level 4 of the University Centre, fax to 824-7962 or send e-mail to lgraham@exec.admin.uoguelph.ca. For external and commercial advertising, call Brian Downey at Ext. 6665 or send e-mail to bdowney@exec.admin.uoguelph.ca.

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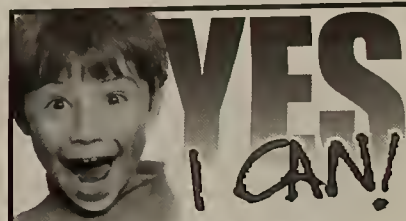
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ARBORETUM

Doug Barr presents interactive musical entertainment for children and adults Feb. 9 at the Arboretum Centre. Tickets are \$5 and are available at Tributaries, Simply Wonderful and the Arboretum. For more information, call Ext. 2113.

Theatre in the Trees presents the dinner-theatre comedy *Beyond a Joke* by Derek Benfield. Directed by John Snowdon, the play runs Saturdays beginning Feb. 5. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are \$45 and are available at Ext. 4110.

ATHLETICS

The Gryphon swim team hosts Waterloo Jan. 21 at 5:30 p.m.

On Jan. 22, Windsor visits Guelph to play the women's volleyball team at 1 p.m. and the men's team at 3 p.m. The Guelph Open wrestling tournament begins at 9 a.m.

In basketball, Brock visits U of G Jan. 26 to play the women's basketball Gryphons at 6 p.m. and the men's team at 8 p.m., and McMaster comes to campus Feb. 5 to play the women's team at noon and the men's team at 2 p.m.

The men's hockey Gryphons play host to Ryerson Jan. 22, Laurier Feb. 3 and Waterloo Feb. 5. All games begin at 7:30 p.m.

The women's hockey Gryphons are at home to York Jan. 26 and Toronto Feb. 2. Both games begin at 7:30 p.m.

CONCERTS

The winter Thursday noon-hour concert series opens Jan. 27 with soprano Katrine Anderson Saito and pianist Irene Gregorio performing French and Hebridean songs and continues Feb. 3 with cellist Andras Weber and pianist Sofia Moshevich performing works by Shostakovich and Stravinsky. The concerts are held in MacKinnon 107. Admission is free, but donations are welcome.

CONFERENCE

U of G hosts the 19th annual Organic Agriculture Conference Jan. 27 to 30. This year's theme is "Growing the Organic Market." The conference features seminars, workshops, an eco-products trade show and a public forum panel discussion Jan. 28 on "Organic Farming, Fair Trade, Social Justice." Admission to the forum, which begins at 7 p.m. in the Whippetree, is \$5, with all proceeds going to local food banks. For more information, call Tomas Nimmo at 705-444-0923.

LECTURE

The winter session of Third Age Learning-Guelph's lecture series for retired people continues Jan. 26 with retired history professor Eric Reiche

discussing "The Era of the Two World Wars" at 10 a.m. and Prof. Sandy Middleton, Zoology, examining the world of birds at 2 p.m. On Feb. 2, John English of the University of Waterloo discusses "Lester Pearson and Peacemaking" at 10 a.m., and Middleton explains bird migration at 2 p.m. Lectures are at the Arboretum Centre.

NOTICES

The Stress Management and High Performance Clinic is offering classes in relaxation and stress management beginning Jan. 25. The one-hour classes run Tuesdays and Thursdays and are available at 12:30, 5:30 and 8 p.m. Cost is \$120 general, \$40 for U of G students and \$60 for UGSA members. The clinic is also offering a five-week better sleep program that began Jan. 17. It runs Mondays from 12:30 to 1:30 p.m. Cost is \$50 general, \$20 for U of G students. For more information, visit the Web site www.uoguelph.ca/~ksomers or leave a message at Ext. 2662.

The Ecumenical Campus Ministry is offering a five-session lunchtime study group on prayer for healing, using Tom Harpur's book *The Uncommon Touch* as a resource. The sessions begin Jan. 26 at 11:30 a.m. in UC 333. To register, call Rev. Lucy Reid at Ext. 2390 or send e-mail to leid@uoguelph.ca.

The College of Social and Applied Human Sciences will hold a career night Jan. 25 for students in child studies, gerontology, nutrition, family studies, marketing, and housing and real estate management. Running from 5 to 8 p.m. in the Whippetree, the event will offer an opportunity to discuss career paths with college alumni and guest speakers.

The Hafa Alumni Association will host a career fair and night Feb. 9 from noon to 4 p.m. and 5 to 9 p.m. Location to be announced. For details, call Karen Baxter in Hafa at Ext. 8709.

U of G presents a turfgrass water workshop on the theme "Critical Water Use Issues" Feb. 28 and 29. Speakers include Prof. Terry Gillespie, chair of the Department of Land Resource Science, and Geoff Corlett, president of TurfDrain Inc. Cost is \$369.15 until Feb. 4, \$395.90 after. For more information or to register, call the Office of Open Learning at 767-1114 or fax to 767-5000.

The U of G/Ontario Ministry of Agriculture, Food and Rural Affairs research program invites submissions for new research proposals, particularly from faculty and college researchers who have not previously participated in the program. Proposals must address goals approved by the Agricultural Research Institute of Ontario and must be submitted by Jan. 31. For more information, visit

the Web site www.uoguelph.ca/Research or call 826-3809.

The Canadian Association for the Study of International Development will hold its 16th annual conference May 28 to 30 at the University of Alberta. This year's theme is "New Frontiers: Globalization, Society and Culture in the New Millennium." Proposals are invited for papers, round tables and other forms of participation, including workshops, films, art and cultural exhibitions. Deadline for submissions is Feb. 15. For more information, call program chair Trish Paton at 306-566-7949, fax to 306-566-1847 or send e-mail to patricia.paton@cucs.com.

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) conducts a special research program designed to approach agriculture, food and rural research more efficiently and effectively. Projects must demonstrate a collaborative effort with industry and must fit in the following areas: development of new value-added food products; development of new non-food products, alternative crops and alternative livestock; enhancement of agriculture and food biotechnology; enhancement of the viability and sustainability of agricultural and rural communities; environment; and antimicrobial resistance. Proposals are due Feb. 9 in the Office of Research and Feb. 11 at OMAFRA. Information packages are available in Room 224 of the Reynolds Building.

The International Development Research Centre has launched the John G. Bene Fellowship for Canadian graduate students doing research on the relationship of forest resources to the social, economic, cultural and environmental welfare of people in developing countries. The award must be used, at least in part, to help fund field research in a developing country. Application deadline is Feb. 1. For more information and application forms, visit the Web site www.idrc.ca/awards/ebene.html.

The Don Snowden Program for Development Communications offers \$1,500 to a Canadian or international U of G student to extend and complement the student's applied research in the field of communication for development. The award is open to undergraduates who have completed five full academic semesters and graduate students. Application deadline is Feb. 18. Forms are available at the Centre for International Programs Info-Centre on Level 2 of Day Hall.

SEMINARS

The Department of Microbiology hosts Jon Lloyd of the University of Massachusetts discussing "New Uses for Old Enzymes: Reduction of Iron and Radionuclides" Jan. 20 at 1 p.m. in MacNaughton 121.

The Department of Microbiology graduate student seminar series presents Neil Blackburn discussing "The Lytic Transglycosylases of *Pseudomonas aeruginosa*," Jan. 21, Wayne Miller on "Enzymes Involved in Biosynthesis of B-Band O Antigen in *Pseudomonas aeruginosa* Serotype O5" Jan. 28 and Natalia Kaniuk on "Regulation of Bacterial Virulence Through Phase Variation" Feb. 4. The seminars are at noon in Food Science 128.

The Department of Physics presents Huan Huang of the University of California, Los Angeles, discussing "Quark Matter, Symmetries and Heavy Ion Collisions" Jan. 25 at 4 p.m. in MacNaughton 113.

The School of Languages and Literatures presents Prof. Gordana Yovanovitch discussing "Play and the Picaresque," focusing on play as a means of personal survival and resistance to official culture in Latin America, Jan. 28 at 3:30 p.m. in the University Club on UC Level 5.

A series of financial planning seminars for members of the Professional Staff Association continues Feb. 7 with a discussion of tax planning. Offered by Neil Mahnke and Michael Parson of the Investors Group, the session begins at noon in UC 103. RSVP to Parson at parson2@investorgroup.com.

TEACHING SUPPORT

Teaching Support Services is offering a series of workshops featuring hands-on training in the use of current learning technologies. Sessions will explore "Web-Based Testing" Jan. 21, "Producing Quality Video for Teaching" Jan. 24, "Teaching with PowerPoint" Jan. 28, "WebCT: Hands-on!" Jan. 31, "Web Design: Tips and Tricks" Feb. 4, "PowerPoint I: An Introduction" Feb. 11, "HTML II: Looking Under the Hood" Feb. 15, "WebCT: Hands-on" Feb. 22, "Burning a CD-ROM Disk" Feb. 29, "PowerPoint II: Advanced" March 3, "HTML III: Jump-Start Your Web Site Using a Course Template" March 7 and "HTML IV: Introduction to Digital Imaging" March 24. For full details, visit the Web site www.tss.uoguelph.ca. Register online or by calling Mary Nairn at Ext. 3571.

TSS is offering a five-week workshop series on "Raising the Bar: Experiential Learning at Guelph," beginning with an overview Jan. 19. On Jan. 26, Amy Driscoll, director of the Center for Teaching, Learning and Assessment at California State University at Monterey Bay, will discuss "Service Learning." Other topics include "Assessing Experiential Learning" Feb. 2, "Principles of Learning in Higher Education" Feb. 9, "Capstone Courses: The Transition from School to Work" Feb. 14 and "Copyright and the Internet" March 13. On March 1, Anthony Marini of the University of Calgary will lead sessions on "Principles of Good Assessment"

and "Promoting Self-Assessment Skills in Students." For more information or to register, visit the Web site www.tss.uoguelph.ca or call Susan Rimkus at Ext. 3107.

THESIS DEFENCE

The final examination of Rebecca Schalm, a PhD candidate in the Department of Psychology, is Jan. 21 at 1:30 p.m. in MacKinnon 132. The thesis is "Sex Bias in the Selection Interview: Does Evaluation Structure Make a Difference?" The adviser is Prof. Steven Cronshaw.

COMMUNITY EVENTS

The Waterloo-Wellington Wildflower Society meets Jan. 19 at 7:30 p.m. at the Arboretum Centre. Guest speaker is Michelle Kanter of the Nature Conservancy.

The Guelph chapter of the Canadian Federation of University Women will meet Jan. 25 at 7:30 p.m. at the OMAFRA building at 1 Stone Rd. W. Guest speaker is orchid specialist Olga Sarmento.

The "Black and White Classic" Dream Auction, organized in support of the Advanced Agricultural Leadership Program, will be held Feb. 12 at 7 p.m. in the atrium of the OMAFRA building at 1 Stone Rd. W. Tickets are \$35. For tickets or information or to donate items, call 826-4204.

Victim Services Wellington, which works in co-operation with police and fire services in Guelph and Wellington County by providing emotional support and practical assistance to victims, is looking for volunteers. The program's next 40-hour training program begins Jan. 25 and is offered free to successful candidates. For more information, call 824-1212, Ext. 304.

Opening Jan. 27 at the Guelph Little Theatre is the James Sherman comedy *Beau Jest* directed by Gerry Butts. The play runs Thursdays to Saturdays at 8 p.m. until Feb. 12, with a 2 p.m. matinee Feb. 6. For ticket information, call 821-0270.

Guelph Civic Museum will host a Robbie Burns ceilidh Jan. 23 from 1:30 to 4 p.m. For information, call 836-2117.

The Guelph Historical Society meets Feb. 1 at 7:30 p.m. at St. Andrew's Church. Prof. Terry Crowley, History, discusses "125 Years at the College on the Hill."

The Elora Community Theatre presents *Prelude to a Kiss* by Craig Lucas Feb. 11 to 13 and 17 to 19 at the Theatre on the Grand in Fergus. Lead performers Kelly McCullough and David Tripp are U of G drama grads. The cast also includes two current Guelph students and three other graduates. For ticket information, call 787-1981.

IN THIS ISSUE

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Local Health Officials Honour HAFA

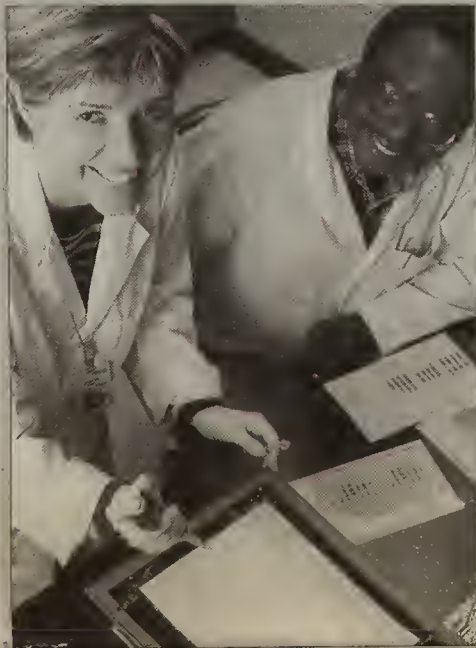
Student restaurant one of eight eateries to win award

THE HAFA RESTAURANT is one of eight area eateries to win an inaugural award from the Wellington-Dufferin-Guelph Health Unit recognizing healthy food choices, food safety and non-smoking seating.

The awards, sponsored by the provincial Ministry of Health under its "Eat Smart! Ontario's Healthy Restaurant Program," were presented Jan. 24 at the Homewood Health Science Centre in Guelph. The awards were open to more than 200 area restaurants.

The student-managed HAFA Restaurant offers experience in running a "real" restaurant three days a week to undergraduates pursuing careers in the hospitality industry. Student teams in the third-year course "Foodservice Operations Management" are responsible for all the activities in running an upscale restaurant for a day. They choose the menu, prepare the budget, purchase and receive the food, prepare a marketing plan to attract customers, do the accounting and cost statements, take reservations, decorate the restaurant according to their chosen theme, cook and serve the food and clean up afterwards.

Continued on page 9



LEARNING IN THE LAB

Food science graduate student Jolanta Majak says the laboratory skills and experience with industry relations she's acquiring at Laboratory Services are preparing her well for her career. At right is her adviser, senior scientist Joseph Odumeru. See story on page 8.

PHOTO BY MARTIN SCHWALBE

New Partnership Will Advance Skills, Knowledge in Food Regulation

U of G, Canadian Food Inspection Agency sign memo of understanding to establish new institute

THE CANADIAN Food Inspection Agency (CFIA) and U of G have signed a partnership agreement to create a unique Canadian research, educational and communications program in food regulation. The three-year agreement will underpin the establishment on campus of the Canadian Institute for Food Inspection and Regulation.

The institute will guide the two organizations' collaborative projects, sponsor co-op and scholarship programs and a chair in food regulation, as well as attract and secure research, development and educational funding from the private and public sectors.

"Food safety, the protection and the health of Canada's animal and plant populations are the CFIA's top priorities," said CFIA president Ron

Doering at a Jan. 17 ceremony on campus to mark the signing of a memorandum of understanding with U of G. "The soon-to-be-established institute will make a significant contribution to these goals and help us keep pace with new technological and scientific advancements," he said.

At the ceremony, president Mordechai Rozanski emphasized that the joint venture will benefit students and faculty and, as such, is in keeping with the University's primary strategic objective as a learner-centred, research-intensive institution.

"Within our own campus community, this joint venture will draw faculty and students from all six colleges, a wonderful achievement that speaks to our University's shared commitment to building cross-disciplinary relationships," said Rozanski.

The Canadian Institute for Food Inspection and Regulation will serve as the umbrella for a range of educational, research, communication and other initiatives, including:

- a joint research committee that will identify collaborative priorities;
- a CFIA chair in food regulation, which will help guide the institute's regulatory program;
- a commitment to employ up to 10 undergraduate students interested in pursuing work-term employment in the CFIA through the co-op education program;
- the establishment of a CFIA president's scholarship program for three graduate students in biotechnology; and
- support for SPARK, the University's student writing program.

As the partnership evolves in the coming months, it's expected there will be additional opportunities for new research, education, communications and laboratory programs. The program is also intended to become national in scope, involving universities and CFIA sites across the country.

In his remarks at the signing of

Continued on page 9

Conference Marks Opening of Food System Biotech Centre

Centre to foster U of G, private-sector partnerships in biotechnology

HELPING CONSUMERS make informed decisions about the food they eat — genetically modified or not — is one of the main objectives of U of G's new Food System Biotechnology Centre (FSBC). Prof. Alan Wildeman told about 130 academics and industry representatives at a recent day-long conference on plant and animal biotechnology to mark the opening of the FSBC.

Wildeman, a faculty member in the Department of Molecular Biology and Genetics and director of the FSBC, said the centre is intended to foster University and private-sector research partnerships in biotechnology by enhancing the capacity of U of G to conduct basic research with state-of-the-art facilities.

Involving more than 30 Guelph faculty working in related projects, the centre will also include 10 new faculty members and eight new tech-

nicians working in plant and animal sciences, molecular biology and bioethics.

The FSBC was established with more than \$18 million in funding approved last year from the Canada Foundation for Innovation, the Ontario Research and Development Challenge Fund, the private sector and U of G.

"As growers, we're excited about what the Food System Biotechnology Centre represents and what it will mean to us in the future," said Ken Hough, director of research and market development for the Ontario Corn Producers' Association, during introductory remarks to the gathering. He called U of G, governments and industry "key partners" in food biotechnology research.

"We want to help people make informed choices about what they eat," said Wildeman, adding that he foresees a role for the centre in pro-

viding accurate scientific information to government policy makers. "We need a vibrant education system where dialogue is encouraged."

Explaining that the centre's researchers will include a bioethicist to be based in the Department of Philosophy, he stressed that the FSBC and U of G are keen to address societal concerns about the uses of biotechnology in agriculture, health and other fields.

Those uses — and Guelph's leading role in studying genetically modified organisms (GMOs) in crop and animal science, food safety and other areas — were among the topics discussed during the meeting.

Food science professor Mansel Griffiths, director of the Canadian Research Institute for Food Safety (CRIFS), said biotechnology may be used to improve food safety, including detecting pathogens, improving

Continued on page 9

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IN MEMORIAM

First Registrar Founded Ontario Applications Centre

Herbert Pettipiere, one of the founders of the University of Guelph and its first registrar, died Jan. 12 in Guelph. He was 75.

A 1949 graduate of OAC, Mr. Pettipiere became the youngest OAC dean of men in 1950 and was

the first registrar of the federated colleges of OAC, OVC and Macdonald Institute. When the University of Guelph was created in 1964, he became its first registrar as well. In 1972, he left the University to found the Ontario Applications

Centre, where he remained until his retirement in 1990. He was also one of the founders of the Canadian Registrars' Association.

He is survived by his wife, June; three children, Steven, Linda and Keith; and 11 grandchildren.

* * *

Psychologist Renowned for Work on Visual Perception

Retired psychology professor David Piggins died suddenly Jan. 21 in Wales, where he had been a visiting research fellow at the University College of North Wales (Bangor). He was 67.

After earning a diploma in ophthalmic optics from Northampton College of Advanced Technology in England in 1956, Prof. Piggins went into private practice as an optometrist for six years, then became a lecturer in optics at Stow College Glasgow. He joined U of G in 1966 after earning an MA in experimental psychology from the University of Waterloo. In 1991, he was appointed to the adjunct faculty of Waterloo's School of Optometry. He retired in 1998.

A specialist in sensory and perceptual processes, Prof. Piggins studied vision in humans and animals, including such exotic subjects as polar bears, sloths, anteaters, manatees and armadillos. He published numerous papers on his experiments in visual perception and was an invited speaker around the world. A visiting lecturer at Bangor in 1989, he returned often to teach and conduct research and was appointed visiting research fellow in 1994. Last winter, he was a visiting fellow at Cambridge University.

Prof. Piggins was a Fellow of the Worshipful Company of Spectacle Makers, a Fellow of the American Academy of Optometry, an Associate Fellow of the British Psychologi-

cal Society, a Foundation Fellow of the British College of Opticians and a chartered psychologist with the British Psychological Association.

Remembered by colleagues for his cheerfulness, his sense of humour and his skills as a storyteller, Prof. Piggins was also a cartoonist, a poet and a musician. His cartoons appeared in numerous publications, including the *American Mathematical Monthly*, his poem *Voices* won first prize in a 1997 contest sponsored by *Poetry Today*, and he frequently took part in local Celtic jam sessions performing on the bodhran.

He is survived by his three sons, Hugh of Manchester, Christopher of Montreal and Alun of Toronto.

* * *

English Prof Pioneered Student Writing Programs

Retired English professor Gerald Rubio died Jan. 25 after a long illness. He was 67. An MA graduate of the University of Wisconsin, Madison, and PhD graduate of the University of Illinois, Champaign, he served four years in the U.S. navy as a journalist posted to the Commander of the Pacific Fleet during the Korean War. He joined the faculty of U of G in 1967 and retired in 1995.

During his career at Guelph, Prof. Rubio made important contributions to the development of student writing programs on campus. He served as director/co-ordinator of writing programs from 1979 to 1982, during which time he de-

signed and implemented Guelph's senior (high school) student grading program; designed, established and served as director of the Writing Centre; and served as a consultant to the continuing education division, designing and teaching four remedial, non-credit writing skills courses. He also designed the course "Writing for Science Students."

A specialist in Renaissance literature, Prof. Rubio was the author of numerous articles and reviews. In 1979, he co-founded the *Sidney Newsletter*, an international scholarly periodical that provides a critical forum for scholars and students of the works, lives and activities of

poet and writer Sir Philip Sidney and other members and connections of the Sidney Circle. Prof. Rubio assumed editorship of the publication in 1982 and continued that role into retirement. In 1991, he expanded the periodical into the *Sidney Newsletter and Journal*.

Prof. Rubio is survived by his wife, Mary, a faculty member in the School of Literatures and Performance Studies in English; two children, Tracy Siddall of Guelph and Jennifer of Cambridge, England; and two grandchildren, Zachary and Zoe Siddall.

Contributions in his memory may be made to the Canadian Cancer Society.

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OTTAWA TO ESTABLISH FOUR NEW CENTRES OF EXCELLENCE

The federal government has issued a call for applications to establish new Networks of Centres of Excellence (NCE) in the following areas: "The Automobile of the 21st Century," "Genomics Technologies and Society," "Meeting Environmental Challenges for Clean Water," and "Early Child Development and Its Impact on Society." University researchers and their private- and public-sector partners are invited to present innovative strategies in letters of intent by May 1. Information sessions will be held across Canada in March. Interested groups should refer to the program guide and letters of intent guidelines on the Web at www.nce.gc.ca.

UNIVERSITY STATS RELEASED

The sixth volume of *Facts and Figures: A Compendium of Statistics on Ontario Universities* has just been released by the Council of Ontario Universities (COU). The report provides the latest aggregate statistical information on such topics as Ontario population, applicants/registrants, students, faculty and staff, finances and the physical facilities of Ontario universities. The full report is available on the COU Web site at www.cou.on.ca.

RAITHBY LECTURE FEB. 17

The annual Raithby Memorial Lecture will be held Feb. 17 at 9 a.m. in Room 1714 of the OVC Lifetime Learning Centre. Guest speaker is Dagmar Waberski of the Institute for Reproductive Medicine at the Veterinary School of Hannover in Germany. She will discuss "Ultrasonic Diagnosis of Ovulation and Ovarian Cysts in Pigs: How Can It Improve AI Efficiency?" Waberski will also be available to meet with interested members of the University community throughout the day. To arrange a meeting, call Prof. Mary Buhr at Ext. 6377.

ACCESS 2000 KICKS OFF

President Mordechai Rozaoski, Guelph MPP Brenda Elliott and Joel Harden of the Canadian Federation of Students participated in a Jan. 20 open panel discussion sponsored by the Central Student Association (CSA). Discussion focused on the quality of post-secondary education in Ontario and how funding cuts have affected universities. It was sponsored by the CSA as a kick-off event to Access 2000, a student campaign to lobby the government for more funding for universities.

STAFF DEVELOPMENT OPPORTUNITIES OFFERED

Human Resources is offering a wide variety of faculty and staff development activities this semester, ranging from computer training to sessions on interpersonal skills. For a complete list of programs, visit the Web site www.uoguelph.ca/HR.

Career Services Branches Out

Satellite office aims to increase accessibility, boost student awareness of career resources



Checking out the new Johnston Hall Career Services satellite office are, from left, Andre Auger, director of the Counselling and Student Resource Centre, Lynn Williams of Human Resources Development Canada, career counsellor Lynda McCreery, student peer helpers Andrea Wernham and Annika Rear and OAC dean Rob McLaughlin.

PHOTO BY MARTIN SCHWALBE

CAREER SERVICES has launched its first satellite office, one of several planned to better serve the needs of students across campus.

The Johnston Hall Career Services satellite office, located in Room 273E, offers career-planning services tailored to the needs of students in all programs within OAC — B.Sc. (Agr.), B.Sc. (Env.), B.Sc., BA, B.Comm., BLA and the diploma programs offered at Guelph, Alfred, Kemptville and Ridgeway.

Funded in part by Human Resources Development Canada and staffed by peer helpers, the office offers a wide variety of resources and services, including job postings, in-

formation on résumé writing and interview techniques, business directories and a computer for Worklink and Internet use.

Career counsellor Lynda McCreery, manager of the Johnston Hall office, says the goal of this satellite and others planned later this year for the MacKinnon and FACS buildings is to make students more aware of career-planning and job-hunting issues and the resources available to them on campus, and to make those resources more accessible.

In addition, the satellites will enable Career Services to become more familiar with the needs of individual student populations across campus

and to target their needs, she says. "This will allow us to better cater our services to specific colleges."

As part of that effort, Career Services recently surveyed OAC students to ask them what services and resources they would like the satellite office to provide. "We've had lots of positive feedback saying: 'This is great, thanks a lot,'" says McCreery. "Anything we can do to help students get a good job when they graduate is very popular."

In addition to the Johnston, MacKinnon and FACS offices, Career Services hopes to establish a satellite for other science students on campus, she says.

Human Biologist Named Editor of Physiology Journal

25-year-old publication focuses on exercise physiology issues

PROF. TERRY GRAHAM, Human Biology and Nutritional Sciences, has been named editor-in-chief of the *Canadian Journal of Applied Physiology* for a five-year term.

As the official journal of the Ottawa-based Canadian Society for Exercise Physiology, the publication is distributed six times a year to almost 1,400 physiologists and practitioners and institutions across Canada.

Graham says the journal is assuming greater importance as health practitioners and policy makers recognize the role of exercise in preventive health and in containing health-care costs. According to one American study, ailments related to inactivity or obesity — including cardiovascular disease, cancer, osteoporosis, gall bladder problems, lower back pain and diabetes — account for up to 10 per cent of all U.S. health costs or nearly \$100 billion.

Based on citations, the Philadelphia-based Institute for Sci-

entific Information ranked the *Canadian Journal of Applied Physiology* 14th out of 58 publications in the sport sciences field last fall. Two years ago, the publication failed to make the ranking at all. "There's been a huge improvement," says Graham, who has served as an associate editor since 1993 and has contributed reviews and articles to the publication.

One of its two previous co-editors, Phillip Gardiner of the University of Montreal, recommended Graham's appointment. "Terry has years of experience in the trenches as an associate editor, possesses a well-rounded expertise vital to this position, has excellent judgment and a vision for the future of the journal," wrote Gardiner in his letter of recommendation.

Graham will co-ordinate the efforts of 10 associate editors across Canada and will work with both the society and the Illinois-based publisher Human Kinetics. His PhD student Farah Thong will serve as editorial assistant. She was formerly

managing editor of *Ecosystem Health*, published by the School of Rural Planning and Development.

Now in its 25th year of publication, the *Canadian Journal of Applied Physiology* carries a variety of articles and reviews on exercise physiology, including exercise for cardiac-care patients, spinal cord damage and activity, muscle disorders, exercise as therapy, health management, sports physiology and alternative medicine interventions, lower back pain, obesity and osteoporosis.

Among his own recent submissions, Graham has published reviews on carbohydrates and exercise and on the possible effects of the hormone leptin on reproduction.

He says he was attracted to the post by the opportunity to involve a graduate student in scholarship, by the chance to showcase U of G and his own department, and by the advice he received from his master's thesis adviser at Queen's University: "If you truly believe in a society, then you have no choice but to be involved."

BY ANDREW VOWLES

PEOPLE

THOMPSON PLAY STAGED

Perfect Pie, a new play written and directed by Prof. Judith Thompson. Literatures and Performance Studies in English, is being staged at the Tarragon Theatre in Toronto until Feb. 13. Performances run evenings from Tuesday to Saturday, with matinees Saturday and Sunday.

CROP SCIENTIST SHARES KNOWLEDGE IN INDIA

Prof. Tony Hunt, Plant Agriculture, recently returned from New Delhi, India, where he spoke to members of the Indian Agricultural Research Institute on "Crop Simulation in the New Millennium." The lecture-ship was the result of Hunt's involvement in numerous international research organizations. He is leader of the key agricultural systems component of the Global Change and Terrestrial Ecosystems research group and is working with the Data Information Support Systems Advisory Group to make data from various research groups available to scientists around the world.

SHUTE JOINS EXECUTIVE OF STUDY ABROAD CONSORTIUM

Prof. Jim Shute, director of the Centre for International Programs, has been elected to represent "The Americas" (Canada and the West Indies) on the executive committee of the Commonwealth Universities Study Abroad Consortium. The committee held its first meeting in London, England, in December. Shute will also be a member of a seven-person reference group advising the Association of Universities and Colleges of Canada, the American Council on Education and the Asociación Nacional de Universidades e Instituciones de Educación Superior of Mexico on enhancing student mobility in North America.

HISTORIANS GIVE TALKS

Prof. Elizabeth Ewan, History, presented papers on "Female Flying: Insults in 16th-Century Scotland" to the Wellington County Archaeological Society, "Uppity Women in the Scottish Wars of Independence" to Our Club (Scottish Society) in Toronto and "Gender and Defamation in Late Medieval Scotland" to the history department at Queen's University. Prof. David Murray, History, spoke on "Hands Across the Border: The Abortive Extradition of Solomon Moseby" at the University of Toronto's Faculty of Law and at the joint meeting of the American Studies Association/Canadian Association of American Studies in Montreal.

PHOTOGRAPHY EXHIBITED

MFA student Lori Newdick recently exhibited a selection of work from her "Heroline" series at the Paris Photo — Carrousel du Louvre, the largest international photography salon. One of her pieces, *Strange Thirsts*, was purchased by the Photographic Commission at the Erasmus Museum in Rotterdam for its young artist collection.

Piglet Pacifiers Ease Growth

New technology smooths out growth transition for baby pigs

PIGLET PACIFIERS may help make early weaning a little easier for little porkers and reduce farmers' production costs.

Animal science professor Ian Duncan and graduate student Jeff Rau are developing the pacifier-based feeding system to address growth-related behaviour problems in early weaned pigs. The pacifiers — baby bottle nipples without holes (called "blind" nipples), evenly spaced in the bottoms of weaning pigs' feed troughs — are central to the system.

And they're not just a gimmick. Poor growth in early weaned pigs, called growth check in the farming industry, is a significant problem. Piglet pacifiers are part of a multi-faceted research project aimed at improving the condition.

"Nutritionists have done what they can with feed," says Rau, "but if a piglet isn't eating, feed doesn't do any good."

Piglets normally take 12 to 17 weeks to complete the transition from suckling to dry food. Currently, most producers begin weaning around 17 to 21 days, with a few starting at 14 days. There is little opportunity for the natural transition: the modified trough creates a sense of familiarity, says Rau.

Stressed-out piglets are a problem. When they stop gaining weight — or start losing it — their immune systems are weakened. Weight gain worsens, and it takes longer to achieve market weight. This creates problems such as overcrowded housing and increases farmers' costs.

Although food intake doesn't increase with the pacifier system, it has other advantages, says Rau. For example, it appears to improve the welfare of the weaned pigs by reducing stress. At weaning, piglets still



Graduate student Jeff Rau says piglets weaned on this pacifier-based feeding system are less likely to exhibit behaviour problems related to growth.

PHOTO BY MARTIN SCHWALBE

have a natural sucking impulse, which can get misdirected towards their littermates. This condition, called belly-nosing, can cause piglets to suck, bite and aggressively rub each other's undersides, causing sores and hair loss. Rau says piglets weaned on the new trough are less likely to belly-nose.

For farmers, this new feeder could compensate for losses in weight gain associated with weaning four to seven days later by improving weight gain afterwards. The energy that would otherwise be used for stress-related behaviour such as belly-nosing can instead be used for growth.

The system is designed to be simple, with reasonable installation and maintenance. For Rau, one of the goals of this project is to "try to account for the needs of the animals

and the industry at the same time."

The next step is to complete a study of pigs that have been weaned with the teated feeder to determine if, as in cows, the sucking action stimulates changes in the stomach that improve digestion. Rau says a long-term study is needed on the length of time it takes pigs weaned on the new trough to get to market. If further analysis reveals consistent beneficial results to pigs and producers, the researchers plan to approach manufacturers and encourage production of this specialized feeder system.

This research is sponsored by Ontario Pork and the Ontario Ministry of Agriculture, Food and Rural Affairs. Playtex Products Inc. provided the blind nipples.

BY JENNY DOBBIN
OFFICE OF RESEARCH

LETTERS

FREEDOM TO SPEAK IS PARAMOUNT VALUE

I would like to provide, through @Guelph, the University's views on the academic freedom aspects of the current debate on genetically modified organisms that involves Prof. Ann Clark and others. These views, shared by the president and me, have already been expressed in responding to various letters and queries reaching our offices and have been transmitted to the U of G Faculty Association, Prof. Clark and OAC dean Rob McLaughlin. I have also spoken to the CBC in the same terms.

My first point is very simple. Each and every faculty member at this university has academic freedom and may address any issue he or she wishes. The issue Prof. Clark is addressing is a current, substantive and important one, and I expect many other faculty will address it, pro and con, across the country. Indeed, it is our positive expectation of our colleagues that they will speak up on issues and present the methods and results of their research with all the commitment they can muster, knowing full well that they do so in an arena where their conclusions may be accepted or criticized. One accepts these critical interchanges, often in front of alert and questioning audiences, because such free interchange without threat of repercussion is the surest way to the truth.

Along with the right of academic freedom, I believe there comes responsibility to exercise it with absolute clarity. First, I would expect any of us who address a controversial public issue to indicate that the views expressed are our own and not those of the University. Not everyone in an external audience is familiar with the fact that the University itself adopts no institutional view, but rather is an arena where members of the community have freedom to promulgate their own views. The difference is an obvious one for academics, but is sometimes not obvious to those beyond the campus. Second, I would expect any of us to indicate that our degrees and subsequent expertise lie in a particular field. These are things I routinely do myself; I do not find them burdensome.

Dean McLaughlin has made very clear to me his continuing support of Prof. Clark's freedom to express her views. He and I agree that the word "unethical" was not the best choice of words and that a better way might have been found to express the issue of the duty a

faculty member bears to ensure clarity.

The University's goals include advancing knowledge and contributing to an informed public and to responsible public policy through sound scholarship and debate involving many perspectives and disciplines. Let me give just one practical example of how we are proactively supporting this goal. We are in the process of hiring a bioethicist who will join the Department of Philosophy. That step, strongly advocated by Dean McLaughlin, speaks solidly to the commitment of all of us to provide an arena for debate by all who wish to contribute. It is illustrative of a university where the freedom to speak without fear or favour is a paramount and precious value.

Prof. Iain Campbell, Provost and Vice-President (Academic)

WHAT IS THE ROLE OF RELIGIOUS BELIEF?

Last semester saw the appearance of several posters on campus wishing us everything from a Happy Kwanzaa to a Merry Christmas, as Hospitality Services and the Human Rights and Equity Office acknowledged religious diversity on campus.

What is the role of religious belief on campus? Can we create a learning environment in which the diversity of religious belief and practice at U of G is respected? How far should an institution such as this, which is secular by history and intent, accommodate the spiritual needs and sensitivities of its members?

Should allowances be made for students who wish to observe holy days, for example, when they coincide with the demands of exams and deadlines for papers? And what of the Christian members of the University community who believe that their holy days have been outlawed and their practices rendered invisible in the attempt not to offend non-Christians?

The multi-faith Campus Ministry team wishes to raise these questions, in conjunction with the Human Rights and Equity Office, in such a way that all can hear each other and move towards greater respect and understanding.

An open meeting will be held Feb. 12 at noon in Room 441 of the University Centre. We welcome all input, whether at this meeting or in writing to the Campus Ministry, the Human Rights and Equity Office or @Guelph.

Lucy Reid and Mary Hougham
Campus Ministry

STUDENTS WANTED

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Valerie Poutton

OVC Study Explores Safety of Analgesics

Drugs effective in managing pain in small animals

PROF. KAROL MATHEWS of OVC's Veterinary Teaching Hospital isn't satisfied with the old doctor's cliché: "Take two aspirin and call me in the morning." Her research on non-steroidal anti-inflammatory analgesics (NSAIDs) delves into the efficacy and safety of these drugs and how they can be used effectively for pain management in cats and dogs.

Mathews's research has shown that NSAIDs are effective in treating moderate to severe pain in animals. With this in mind, she is also studying how the drugs can be used to the best benefit while taking into consideration the side effects associated with them.

"Non-steroidal anti-inflammatory analgesics are a group of drugs that have been around for a long time, but they are not all created equal," she says. "Some have more side effects than others and some are more potent in their analgesic effect than others."

Historically, NSAIDs have not been recommended for moderate to severe acute pain, but Mathews's work indicates that the drugs can, in fact, be effective for a broad spectrum of pain, especially because they reduce inflammation as well as manage pain. She's found that their use has benefits for post-operative orthopedic and soft tissue pain, especially that associated with inflammation, as well as cancer pain.

Based on her research, which includes use of the drugs in the Veterinary Teaching Hospital and monitoring patients over a 24-hour period, Mathews outlines a number of advantages to using NSAIDs:

- the drugs can be given as an injection or in oral form;
- there is no danger of drug abuse;
- they can be used in most species of animals; and
- the patients are not sedated, which means they can walk, eat and drink.

In addition, animals do not experience cardiac or respiratory depression with NSAIDs, she says.

NSAIDs also act synergistically with opioids. "Our research has shown that these drugs are as effective as opioids in managing certain levels of pain," says Mathews, "and the combination of NSAIDs and opioids is very, very good."

Although the analgesic drugs studied by Mathews have proven to be great pain-management tools in many cases, she does warn that they should not be used when the patient has conditions such as renal insufficiency, dehydration, hypotension, hypovolemia, gastric ulceration, gastrointestinal disorders or liver disease.

Her study of the efficacy of NSAIDs includes determining the optimum dosing for the drugs.

"It's very important for practitioners to know that while observing the maximum recommended dose, lower dosages can be used," she says. "If an animal is doing well, we can decrease the dose to the lowest level that manages the pain. With this approach, we will reduce potential side effects of the drug."

Non-steroidal anti-inflammatory analgesics have been used by humans for years, with new ones appearing on the market every year. These analgesics are now becoming more commonplace in veterinary medicine. Mathews's research will continue indefinitely as new analgesics are developed.

"We can make the assumption that if NSAIDs are good for people, they would probably be good for veterinary use," she says. "But we have to be careful. Cats and dogs are not little people. These animals are more susceptible to the side effects of these drugs than humans are." For that reason, only NSAIDs prescribed by veterinarians should be given to a cat or dog.

BY GAYLE ANDERSON

Count Them In

New technology enhances client services at Animal Health Lab

COUNTING and categorizing blood cells to help diagnose animal health problems can now be performed with greater accuracy and speed, thanks to new-generation technology at Laboratory Services' Animal Health Laboratory (AHL).

AHL recently took delivery of an ADVIA 120, an automated hematology analyser. It's used to determine the complete blood count (CBC), which is a measure of the numbers of different cellular components in a blood sample, such as red and white blood cells and platelets.

The different categories of white blood cells, including neutrophils and lymphocytes, can also be classified and counted with the ADVIA 120. In addition, by using laser optics, the instrument measures the content of hemoglobin — the iron-containing pigment that transports oxygen — in individual red blood cells.

Determining the CBC helps clinicians and researchers assess how well an animal is responding to disease. If, for example, an animal were suffering from anemia — a decrease in the number of red blood cells or hemoglobin — the CBC would reveal the animal's response to this deficiency. Indeed, the CBC can tell a great deal about the health of an animal, and the sooner a problem is diagnosed, the sooner treatment can begin.

The instrument can also be used to monitor the effects of treatment received by animals and their recovery.

AHL manager Grant Maxie says the ADVIA will be invaluable for researchers and clinicians. With its new solid-state technology, the ADVIA is twice as fast and more reliable than the lab's previous hematology analyser. And it certainly beats the conventional method of manually counting blood cells under the microscope — a laborious and time-consuming task.

"The ADVIA will mean better service for our clients, including faster turnaround of samples, greater



Looking over the Animal Health Laboratory's new automated hematology analyser are, from left, lab manager Grant Maxie, pathobiology chair Pat Shewen and Veterinary Teaching Hospital director John Tait.

PHOTO BY MARTIN SCHWALBE

confidence in results and improved infrastructure for teaching support for the Department of Pathobiology," says Maxie. "The more reliable instrument design will reduce downtime and enhance operational efficiency in the laboratory."

Adds Prof. Pat Shewen, chair of the Department of Pathobiology: "We're delighted to stay at the forefront of analytical technology."

Personnel at the AHL are now being trained to use the ADVIA, which is expected to be in routine use soon. The first step will be to verify the veterinary software and to validate the instrument, by comparing the results produced by the ADVIA to

numbers reported by current methods (such as manually counting blood cells under the microscope).

The ADVIA uses software specifically for the CBC for 16 different veterinary species, making it especially useful for OVC's Veterinary Teaching Hospital, the lab's top client for hematology services.

Hospital director John Tait says that acquisition of the ADVIA 120 "is a good example of reinvestment in veterinary resources made possible through the efficient operation of Lab Services' AHL."

BY CAROL PILLEY
OFFICE OF RESEARCH

Post-Soviet Agriculture in the Spotlight

U of G conference draws interest from agribusiness, government and academics

THE SCHOOL OF Rural Extension Studies and Agriculture and Agri-Food Canada are sponsoring the conference "Doing Business in Russia/Ukraine: Spotlight on Post-Soviet Agriculture" Feb. 24 to 26 at the College Inn.

Chaired by Prof. Glen Filson, the conference will address issues of interest to agri-food exporters and investors in Russia and Ukraine, as well as Canadian government officials and North American academics interested in post-Soviet agriculture.

More than 100 people from Russia, Ukraine, Canada and the United States are expected to attend the three days of lectures, plenaries and

workshops. Discussion will focus on agribusiness the first day, government issues the second day and topics of academic interest on the third.

Filson says the conference will give members of Canada's agri-food sector an opportunity to meet and hear from others actively doing business in Russia and Ukraine, as well as visiting Russian food importers. Information will be presented on what help is available from the Canadian government to facilitate trade and investment in agri-food produce with Ukraine and Russia.

"This is an important conference with respect to trade and investment between Canadian agri-food compa-

nies and Russia and Ukraine," he says. "And it comes at a very good time. With the rising price of oil and gas, of which Russia is a major exporter, the country is finally in a position to be able to afford to meet some of its desperate food shortages. We can play an important role in helping to build up their agriculture by promoting the use of geographically, geologically and environmentally appropriate technology. There's a real chance of agri-food synergy between Canada and the Russia/Ukraine region because of the incredible similarities in our geology and geography."

Of particular interest to academ-

ics attending the conference will be the analysis of socioeconomic and structural reforms now occurring in Russia/Ukraine and the creation of sustainable livelihoods, says Filson. Participants will also learn about Canada's involvement in the reform of post-Soviet agriculture.

Guest speakers include Evgenia Serova, head of agrarian policy at the Institute for Economy in Transition in Moscow; David Epshtein of the Russian Academy of Agricultural Sciences in St. Petersburg; Stephen Wegren of Southern Methodist University in Dallas; Valery Patsiorkovski of the Institute for Socioeconomic Studies of the Popula-

tion in Moscow; Valery Khozhemipo of the faculty of economics at Friendship University in Moscow; and Alexander Makeev, director of the Foundation for Agrarian Development at Moscow State University. U of G speakers include Prof. Fred Edlin, Political Science; and Profs. Wayne Pfeiffer and Peter Stonehouse, Agricultural Economics and Business.

Academics can attend the second and third days of the conference for \$135. Cost for students is \$50 for all three days. For more information, visit the Web site www.uoguelph.ca/~fsa-conf or contact Filson at Ext. 6231 or gfilson@oac.uoguelph.ca.

MAKE PEOPLE STEWARDS OF CANADIAN SPECIES AT RISK

"Under the more positive approach of voluntary stewardship programs, landowners are rewarded for their contributions and assisted in taking better care of their land."

BY STEWART HILTS

ON DEC. 17, federal Environment Minister David Anderson tabled his proposal for new legislation to protect rare, threatened and endangered species in Canada. The proposal represents a significant shift in environmental policy approaches away from regulation and penalties and toward voluntary stewardship and incentives. Although the new law may disappoint some environmental organizations and scientists in the short run, voluntary stewardship programs can support the evolution of environmental ethics in society, which is the only way to protect species at risk in the long run.

The United States passed federal endangered species legislation more than 25 years ago, based strongly on a regulatory approach. But there is growing consensus, even among environmental groups that support the U.S. act, that this approach has not worked well. Litigation is common, and conflict over endangered species increasingly ends up in the courts, while little attention is paid to educational programs that will support the evolution of an improved environmental ethic over the long term.

In Canada, all the organizations involved in this debate, including farm groups and industrial groups such as the Canadian Mining Association and the Pulp and Paper Association, agree that we do not want a "U.S.-style" policy based on litigation. The alternative is stewardship — the approach promoted by Anderson in his new proposal.

The first effort to pass an Endangered Species Act in Canada in 1996 was considerably more like the U.S. approach, relying heavily on regulation. It met with such vociferous opposition that it was allowed to die quietly. The major challenge is that many of the species at risk, and most of the biodiversity "hot spots" in Canada, are in areas dominated by private land — southern Ontario, parts of southern Manitoba, Alberta and British Columbia. Simply put, private landowners dislike being regulated.

Stewardship is a vague term used in many different ways, but it focuses on promoting voluntary co-operation, especially among private landowners. It often includes proactive measures to improve environmental practices, and many stewardship programs include paying some level of incentive to landowners, at least to partly cover costs. Financial compensation is included in the new federal proposals, answering one of the primary objections by industry and private landowners.

A major challenge to be faced is that the history of wildlife conservation and research in Canada is heavily based on regulation of species groups (especially those we like to hunt) and on the preservation of publicly owned, protected areas such as national parks. Much of that activity has occurred in the vast Crown lands in Canada's North rather than in the settled landscape where most of us live — and where many species at risk are found. On Crown lands and in parks, science can be applied more directly by wildlife professionals, with less need for public explanation or education.

But a different approach is needed when dealing with private landowners. First, comprehensible information must be available. Even at this first step, we fall down because most literature is written by scientists for other scientists, with little effort to translate issues into terms the general public can understand, let



alone the specific implications for landowners. We hesitate even to tell landowners where rare species are found, lest they go out and destroy them.

This attitude reminds me of the old theory X and theory Y in business. One approach assumes that all your employees are basically lazy and incompetent, doing the least work necessary to keep their jobs and their paycheques. Control is the name of the

of voluntary stewardship programs, landowners are rewarded for their contributions and assisted in taking better "care of their land." Financial incentives and other specialized legislation such as that enabling conservation easements — and even changes to the Income Tax Act — can all play an important role in creating a positive climate for landowner contributions.

Policies and public ethics toward environmental issues don't change overnight. They need time to evolve. The stewardship approach proposed in Anderson's new Species at Risk Act can provide a foundation for the evolution of environmental ethics among landowners. In the long run, this can provide the foundation for stronger government policies and programs — and eventually for new regulations that may prove politically acceptable if stewardship programs have succeeded in the meantime.

One of the best examples of a stewardship program is Ontario's Environmental Farm Planning program, to which the University of Guelph has contributed in many ways. Through this program, thousands of farmers have learned how to conduct a detailed environmental review of their farming practices and have developed action plans to improve those practices. As the farm community has argued, if we were to rely on regulation, we would fall to the lowest politically acceptable common denominator in required practices while generating resentment among farmers. Instead, we have taken the voluntary approach and reached for the highest common standard that the best farmers can set, creating positive attitudes toward improved environmental conservation in the process. In the long run, this will certainly lead to new legislation in some areas as "normal farming practices" shift to a new norm. But more important, it is altering the environmental ethics of the farming community.

U of G has been the leading Canadian academic institution in demonstrating the legitimacy of stewardship programs as a major policy alternative. Landowner contact programs begun here in 1983 focused on conservation by private landowners in the Carolinian life zone of southern Ontario and along the Niagara Escarpment. These programs have been copied in almost all provinces, with very positive response. The

Centre for Land and Water Stewardship has produced a variety of publications such as *Caring for Your Land* that translate scientific information into practical terms that landowners can understand and use.

Ultimately, the success of stewardship policies used to conserve species at risk should be measured by what happens on the ground — how well we prevent the loss of species in Canada and help species recover. A policy based on

voluntary stewardship and incentives will accomplish more in the long run than one based on regulation and penalties.

Prof. Stewart Hilts, *Land Resource Science*, is acting director of the Centre for Land and Water Stewardship. The centre will hold a major millennial conference June 3 to 6 on stewardship and conservation, providing a national forum for debate and research on the evolution of stewardship policies and programs. For more information, visit the conference Web site at www.uoguelph.ca/~claws/conference.

"Financial incentives and other specialized legislation such as that enabling conservation easements — and even changes to the Income Tax Act — can all play an important role in creating a positive climate for landowner contributions."

game. The other approach involves respecting your employees, giving them control and empowering them to become active participants in decision-making. Can you guess which approach leads to greater productivity and creates more satisfying working conditions?

Private landowners in Canada can be seen in the same light. Under a negative regulatory approach to conservation, landowners will not be rewarded for their own positive contributions and will resent the implication that they are poor caretakers of their own land. Under the more positive approach

THE VOICE OF EXPERIENCE

Resource support worker knows first-hand why integrating students with disabilities can make all the difference to their university experience

BY LORI BONA HUNT

BARRY WHEELER loves his job. His position as a resource support worker in the Centre for Students with Disabilities is his all-time favourite. And he's had quite a few jobs in his 42 years, having entered the workforce at 16.

Each day, Wheeler manoeuvres his scooter around the maze of cubicles on the third floor of the University Centre on the way to his office. He knows the route well because he studied at Guelph and was a peer helper before joining the staff last spring. He went back to school at age 36, attending classes part time for six years and graduating with a degree in sociology in 1999.

But knowing the easiest and quickest ways around campus are only some of the advantages of being an alumnus. Wheeler also understands what services make getting through university smoother for students with disabilities. He was born with Charcot-Marie-Tooth Disease (CMT), a hereditary progressive nerve disorder that causes muscle wasting and loss of sensation. Walking requires some effort for Wheeler, and his lungs, hands and voice are also affected.

He knows first-hand the troubles a snowy sidewalk can present for a person who relies on a wheelchair or scooter, or how a note-taker is a huge help when you have difficulty writing, or why integrating students with disabilities can make all the difference to their university experience.

Been there, done that, Wheeler could say.

Maybe that's why when he proposes a new workshop, an idea or a solution, people listen, says Trudy Smit-Quosai, who was Wheeler's student adviser and is now his supervisor.

"When Barry initiates something, it's a product of his experience, and I think that's why students respond to him so well," she says. "But I also think it has a lot to do with his personality. He is the most positive person I know. He tells people this is a great place, Guelph is a great school, and that enthusiasm just rubs off on the students."

The Centre for Students with Disabilities provides services for those with hearing, mobility, vision, medical, learning, attention-deficit disorder or psychological disabilities. Currently, about 400 students receive assistance from special-needs advisers, a learning disabilities specialist, counsellors, peer helpers and volunteers. Services include housing assistance, classroom and examination accommodations, library services and a learning disabilities program.



Wheeler's duties as a resource support worker include helping supervise peer helpers, integrating students with disabilities, and creating, organizing and promoting workshops. This semester, for example, students will learn about healthy eating, résumé writing, complementary medicine and stress management, including yoga instruction. "Yoga is a stress reliever for me, so I wanted to incorporate it into a workshop," he says.

So many students liked the yoga element that Wheeler has created a new special "Gentle Yoga" class for students with disabilities. Sessions will be taught by a certified yoga instructor and will run throughout February and March.

He got the idea of starting workshops while a student. "The services provided at the centre were excellent, but there is always room for improvement," he says.

His other initiatives include reviving a centre newsletter and organizing an advisory committee to monitor services and the needs and concerns of students with disabilities. He makes special arrangements with local businesses to fix students' scooters or provide them with transportation. He also organizes social functions. On many a Friday or Saturday night, Wheeler can be spotted downtown eating pizza or playing music with students. "Being a student is a lot of hard work," he says, "and you need to have some social outlets, some winding-down time."

He considers it all part of the job, but centre co-ordinator Bruno Mancini says Wheeler goes above and beyond the call of duty.

"He's a wonderful ambassador," says Mancini. "He really is the only person who could do this job. He has a good understanding of the needs of the students and can identify with them."

Wheeler takes great pride in getting more students with disabilities involved as peer helpers. As a student, he received assistance from peer helpers and later worked as a volunteer himself. In 1999, he received the Lin Coburn Award, the most prestigious honour a peer helper can receive.

"Peer helpers who have disabilities are not hired because of their disability," he says. "They become peer helpers because of what they have to offer."

Take Jason Dunkerley, for example. He received assistance from a peer helper his first year and now works in that same capacity, guiding a visually impaired student around campus. Being visually impaired himself, Dunkerley knows the difficulty of finding your way around a new place.

"I really benefited from peer helpers who were my guides and I thought it would be neat to be in that position, to help people out," he says. "Barry really motivated me to get involved and be a peer helper, and I get a lot out of it. I think this job was tailor-made for him."

Indeed, Wheeler says this job is unlike any he's had since leaving school at the end of Grade 9. "My mother (who also had CMT) died when I was 12. There were three kids in the family, and when I was 16, jobs were plentiful." His former occupations include running a gift shop, working as a purchasing agent and selling real estate.

"But my disease progressed to the point that I was unable to do any physical work," he says. "Selling real estate — going up and down stairs — became difficult. I decided it was time to obtain a formal education and gain employment more conducive to my disability."

His younger sister, Susan, was his role model. She also has CMT and went back to school at age 26.

Wheeler completed high school through an adult education program before enrolling in U of G's general studies program. "The first year was a little rough — it's hard when you've been out of school for 20 years." Two years later, he entered the BA program.

"Without the services from the Centre for Students with Disabilities, I don't think I would have graduated or even stayed," he says. Now, he wants to do the same for others. "In my mind, my job — my role here — is to meet students' needs. That's what's important."

PHOTO BY MARTIN SCHWALBE

Engineer Joins Forces With Polish Researchers

PROF. JOHN ZELEK, School of Engineering, has received federal funding to jointly study telerobotics applications with counterparts at universities and research institutions in Poland.

Zelek's grant worth \$3,500 from the federal government through its Going Global-Science and Technology with European Partners (STEP) program will enable him to travel twice to Poland to work with his new collaborators. Administered by the Association of Universities and Colleges of Canada, the program helps Canadian universities establish research and development ventures with partner institutions in Europe.

Under the collaboration, the Guelph professor and his new colleagues plan to investigate applications for telerobotic mobile systems in biomedical, environmental and remote transportation fields. Zelek, who studies dynamic vision and path planning, says mobile robots are needed in forestry, space, nuclear reactors, environmental disasters and industry.

"In order for the robot to successfully complete a set of tasks, it must dynamically adapt to changing environmental circumstances," he says.

The new partnership includes six researchers in Warsaw, Poznan and

Wroclaw, whom Zelek met during a conference in Poland this summer.

He plans to apply for additional funding from the Natural Sciences and Engineering Research Council to pay for exchanges of graduate students and for organizing symposiums under the partnership. Noting that several of the Polish scientists already work with researchers in other countries, he says: "This is a door to collaborate with other European researchers."

He says the new partnership made sense for a couple of reasons, including similar interests uniting the researchers and Zelek's own facility with the Polish language.

"They're very strong in mathematical theory," he says. "A lot of famous mathematicians have come from the former Soviet bloc system."

Although this will be his first international collaboration, Zelek has been studying telerobotics as part of U of G's Intelligent Systems Research Group, which includes Profs. Bob Dony and Osman Basir, Engineering, and Prof. Stefan Kremer, Computing and Information Science. (The four received infrastructure funding last year from the Canada Foundation for Innovation for telerobotics research.)

In another novel joint project, Zelek recently received from a Dan-

ish agricultural researcher videotaped footage of pigs in their pens. He will apply his expertise in dynamic vision systems developed through monitoring movements of people to help the researcher learn more about the social behaviour of swine. His contact in Denmark had learned of the U of G robotics engineer through a conversation with Deborah McWilliams, a graduate student in Guelph's Department of Animal and Poultry Science. The latter had discussed with Zelek the possible use of computer scanning as a quick alternative to hand-measuring the quality of intact and broken eggs in henhouses.

BY ANDREW VOWLES

Agri-Food Industry Values Communications

Grant will enable agricultural communications to become core part of OAC curriculum

A \$170,000 GRANT from a federal-provincial organization to establish an agricultural communications program at Guelph recognizes U of G's pre-eminence in studying, teaching and writing about the increasingly high-profile agri-food industry, says Owen Roberts, director of research communications in the Office of Research. "I think it's a good time for this," he says. "Agriculture is on the front pages of the media."

Roberts' three-year grant from the Agricultural Adaptation Council (AAC) will ensure that agricultural communications becomes a core part of the curriculum for students in the Ontario Agricultural College. Initially, the program will link two existing communications electives offered by OAC with activities of a student-writer program run by the Office of Research and a planned summer internship program.

Roberts says the funding demonstrates that the agri-food industry recognizes the value of agricultural communications, particularly the programs available here at Guelph. "Their support is exemplified by the money they give. When you get the nod from this group, you're really getting the nod from farmers, and that indicates confidence that you'll get this thing right."

The money will come from the CanAdapt program, Ontario's portion of the Canadian Adaptation and Rural Development fund of Agriculture and Agri-Food Canada. The program is administered by the Ontario Agricultural Adaptation Council, a 47-member coalition of businesses that delivers funding programs for the federal government.

Council chair Paul Henderson says the agricultural communications initiative is an ideal project for

CanAdapt support because the agricultural and agri-food industries are becoming more complex and more in need of skilled communicators.

"These agricultural communications students will go on to help the media and the industry present balanced, scientifically based information to the public," he says. "The CanAdapt program is investing in the agri-food industry's present and future communications needs."

The U of G program will include two semester-long courses taught by Roberts to third- and fourth-year students, including a long-standing course on writing about the agri-food industry. In a publication production course begun as a pilot project

last year with funding from Pioneer Hi-Bred Ltd., participants work with writers in the Office of Research's SPARK (Students Promoting Awareness of Research Knowledge) program to produce an issue of U of G's *Research* magazine.

Roberts also co-ordinates the 10-year-old SPARK program, which involves students writing research articles for publications on and off campus.

He recently won a gold medal from the Council for the Advancement and Support of Education (CASE) for best individual special public relations program for his efforts to integrate the SPARK program and the agricultural

communications program. SPARK itself won a silver CASE award for best specific media relations program.

As part of the newly funded initiative, he hopes to begin a summer internship program that would allow students to earn academic credits by working in agricultural journalism or communications with business, media, government and industry.

"Ontario Pork, Agriculture and Agri-Food Canada and others have asked us to supply them with students for the summer," he says.

These courses are open to all Guelph students, although enrolment is capped at 19. About half are enrolled in OAC, with others com-

ing from across campus.

"This is a unique program combining formal course work, practical experience and an internship," says Prof. Mike Jenkinson, assistant dean of OAC. "It involves students in the important activity of communicating research information and links directly to a number of other courses in the agricultural science and agricultural business programs."

Roberts hopes to find a sponsor for the program once the AAC funding ends. The local firm Kahntact Marketing, which has hired graduates of Roberts' course and the SPARK program, is helping to raise support to continue the program.

BY ANDREW VOWLES

Lab Services in a Class of Its Own

Grad students acquire applied lab skills and experience with industry relations

SOMETIMES THE CHOICE among chicken, beef and pork is tough. But it's even tougher if you're not sure it really is chicken, beef or pork.

Identifying proteins from other sources in meats — called "meat adulteration" in the food industry — is a highly valued skill, one that Jolanta Majak, a food science graduate student at Laboratory Services, hopes will land her a job in the food industry when she finishes university. And with the applied lab skills and experience with industry relations she's acquiring, she'll be well prepared for her career.

Like Majak, all students at Lab Services are involved in the full gamut of scientific research, from creating projects to writing manuscripts. And because the unit is a business operating within a univer-

sity environment, students also learn how research is developed and eventually turned into marketable services for clients.

Lab Services strives to maintain a high level of student involvement, says general manager Patricia Collins. When the unit joined U of G in 1997 as a result of the enhanced partnership with the Ontario Ministry of Agriculture, Food and Rural Affairs, one of its mandates was to become more involved in student education and training, she says.

"Lab Services takes pride in our contribution to the creation and dissemination of new knowledge. With this value in mind, support of research and teaching is an important part of that contribution."

Many research projects at Lab Services focus on relevant problems facing the food industry that provide

students with valuable training and insight into industry needs. For example, Majak and her adviser, senior scientist Joseph Odumeru, are assessing and optimizing a new test that detects adulterated meats. Adulteration of meat can cause problems for people with allergies or for religious and cultural groups who don't eat certain kinds of meats. If the new test is implemented, Lab Services will be the first to offer it in Ontario.

"Graduate students learn the business aspects of their projects and they're aware that successful completion of these projects will improve the delivery of services, like the meat adulteration identification test," says Odumeru.

There are currently 16 graduate students (eight PhD and eight M.Sc.), seven post-doctoral fellows and five undergraduate students at

Lab Services, as well as several co-op students completing work terms in the lab. The unit is affiliated with almost a dozen departments on campus, and several of its researchers are adjunct faculty members.

A big advantage to students is the high-tech analytical equipment, such as DNA sequencers and infrared systems, used in industrial applications and research at Lab Services. Students are also trained in regulatory testing and ISO 9000 quality systems, both of which are necessary to work in the food industry.

"My experience as a graduate student at Laboratory Services has provided excellent training," says Majak. "I've had the opportunity to interact with the food industry and government institutions."

BY CAROL PILLEY
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Institute Will Enhance Food-Safety Research Base

Continued from page 1

the MOU, Doering stressed that although Canada's food-safety system is among the best in the world, we should not become complacent, especially given new food technologies and increasing public interest in food and health issues. He pointed to the MOU as a positive step in maintaining the country's safe food system.

Guelph-Wellington MP Brenda Chamberlain called the agreement "an important example of how the government and Canadian communities can work together to promote a strong food-inspection system, as well as the health, the safety and the economic well-being of Canadians. I'm very pleased that the CFIA and the University of Guelph are willing to help the federal government to develop an innovative learning and research program. It is not surprising to see U of G taking the leadership role once again in a partnership of such potential."

Rozanski cited recent successes in attracting funding from the Canada Foundation for Innovation, the Ontario Research and Development

Challenge Fund and industry, the \$15-million renovation of the Food Science Building, the opening of the new Food System Biotechnology Centre, partnerships with Agriculture and Agri-Food Canada and the Research Park, and the enhanced partnership with the Ontario Ministry of Agriculture, Food and Rural Affairs as indicative of Guelph's leadership role in agri-food.

"The University of Guelph is proud to be Canada's pre-eminent centre for agri-food research, education and technology transfer," he said. "The Canadian Institute for Food Inspection and Regulation will enhance the country's food-safety research base, attract bright minds, initiate careers and improve our food regulation and inspection capabilities, to the benefit of all Canadians."

The MOU builds on a long-standing and successful relationship between the CFIA and U of G. The federal agency is the largest single employer of Guelph's agriculture and veterinary graduates.

BY ALEXANDER WOOLEY



Guelph MP Brenda Chamberlain, CFIA president Ron Doering, centre, and president Mordechai Rozanski shake hands on an agreement that will establish a Canadian Institute for Food Inspection and Regulation at U of G.

PHOTO BY MARTIN SCHWALBE

Concerns About Biotech Underscore Need for Research

Continued from page 1

epidemiology and surveillance, and learning more about the development of pathogens causing food-borne illnesses.

CRIFS is an interdisciplinary group of more than 50 university and government scientists established with an \$8-million grant to study food safety and provide information to policy makers.

Griffiths noted that food-borne illnesses kill about 500 Canadians each year. "The incidence of food-borne illness is increasing in all parts of the world," he said, citing such factors as changes in farming, increased travel, demographic changes and new forms of microbial resistance to antibiotics.

Environmental biology professor Gord Surgeoner, president of On-

tario Agri-Food Technologies, said biotechnology proponents need to address consumers' questions. At the same time, he advised them to read carefully the results of consumer surveys on GMOs. Consumers might tell pollsters they're willing to pay a premium for non-GMO products, he said, but that's not likely to be borne out at the grocery checkout.

Session topics at the conference included transgenic plants and animals, cloning, gene targeting, gene and protein analysis, and food safety.

- Prof. John Phillips, Molecular Biology and Genetics, said success in biotechnology begins with a novel idea, but it also requires commitment and vision, as well as private-sector partners. He described how the Ontario pork industry has supported the

genetic engineering project he is pursuing with microbiology professor Cecil Forsberg and graduate student Serguei Golovan to develop a pig that can digest dietary phosphorus and produce "environmentally friendly" manure.

- Prof. Jim Squires, Animal and Poultry Science, described his research using biotechnology to prevent boar taint, an off-odour in pork caused by the presence of specific hormones in male pigs. He said helping breeders select for specific pigs would produce higher yields and reduce costs.

- Prof. David Evans, chair of the Department of Molecular Biology and Genetics, described new equipment for analysing genes and proteins being purchased with recent

federal and provincial funding, including a DNA arrayer, mass spectrometer, electron microscope and a nuclear magnetic resonance spectrometer. He says the DNA arrayer will allow Guelph to use recently developed DNA chips to screen numerous genes quickly and efficiently.

- Prof. Bonnie Mallard, Pathobiology, described her work in genetic selection for improving immune response and disease resistance in livestock.

- Prof. Mark Baker, Pathobiology, discussed gene targeting for modifying genes.

- Three faculty from the Department of Plant Agriculture described aspects of their work:

- Prof. Elizabeth Lee spoke on

mapping the location of specific genes to improve corn breeding and develop a potentially lucrative white corn;

- Prof. Larry Erickson explained the use of genetic engineering to design oral vaccines fed to livestock; and
- Prof. Barry Shelp discussed the development of transgenic tobacco plants to confer resistance to such pests as nematodes and budworms.

Noting that we live in the "age of the chromosome," Wildeman told the gathering that genetic engineering will allow farmers to use fewer chemicals and use less energy input, to help Third World countries tackle such health problems as blindness among children caused by lack of dietary vitamin A, and to eventually provide industrial feedstocks such as hydrocarbons.

Referring to opponents of biotechnology, he said: "To abandon this technology because of lobbying that's not held up by scientific data would short-circuit the major benefits that can come from using it wisely."

BY ANDREW VOWLES

Restaurant Offers Experience on Front Lines

Continued from page 1

The restaurant is fully commercial and usually booked solid. Customers receive survey cards after their meal to rate how well the students have done.

Prof. Jeff Stewart, who oversees the students' efforts, says the restaurant gives them a chance to put into practice the theory they learn in the classroom.

"It's an opportunity for them to showcase their talents," he says. "They establish higher standards each year because they see what students before them have done. I encourage creativity and risk-taking, so if they make mistakes along the way, they can turn them into opportuni-

ties for growth."

More than 2,000 students have seized on those opportunities in the 20 years since the restaurant opened in 1980. In the past, students have turned the four plain white walls of the Hafa Restaurant into the inside of an Arabian tent and a Caribbean beach. Parents have driven from as far away as Kingston to have lunch at the restaurant when a son or daughter is on the management team.

"The core educational aim is to understand the nature of the work that people do on the front lines of the industry," says Hafa director Prof. John Walsh. "First and foremost, we teach our students how to

manage people."

Part of that training involves learning to say "no" to the school's director.

"Frequently I call down and am told that there are no reservations available that day," says Walsh. "That's part of their educational experience, learning to turn down customers who may be impatient or disappointed. Our students learn to be firm but professional and courteous. It's ideal training for the real world."

The criteria for the Eat Smart! Award included a menu that consistently offers nutritional food choices and fills customer requests for

healthy substitutions. Food-safety standards and availability of non-smoking seating were two other judging categories.

Stewart says the Eat Smart! Award sets a good precedent. "I think the province is right to recognize and reward those who lead the industry, rather than just taking punitive action against those who fail to meet established standards. On behalf of the Hafa Restaurant, I'm ecstatic at this recognition, and I'm equally happy for the other restaurants in Guelph that also won Eat Smart! Awards."

BY ALEXANDER WOOLEY

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Huntsman to Host Undergraduate Field Semester

Program marks first formal collaboration of departments of Zoology and Botany in field teaching

LAST SUMMER, Prof. Paul Hebert, chair of the Department of Zoology, became chair of the board of directors at the Huntsman Marine Science Centre, a research and teaching institute in St. Andrews, N.B. This summer, Guelph's departments of Zoology and Botany will offer a new field semester for first-year biology undergraduates at the centre. Coincidence? Not likely.

Hebert says the new semester developed out of a need to boost summer occupancy at the centre and his desire to provide more field experience for undergraduates. He says the new offering will give students an invaluable opportunity early in their undergraduate tenure to study plants and animals in a natural setting — and give them the chance to complete a full semester early.

"You've got to get students out there," says Hebert, recalling his own youthful beginnings in the field. As a 12-year-old, he wrote to scientists at universities and the Royal Ontario Museum to broach his plan to create "giant" moths. That request led indirectly to a professor's invitation to spend summers collecting moths and butterflies in Ontario's cottage country.

By contrast, his Department of Botany counterpart, Prof. Larry Peterson, gained his first field experience

only after he'd begun teaching. "I realized then that that's what caught the students' attention," says Peterson.

Environmental sciences student Brian Robinson applied for the inaugural Huntsman program to gain hands-on field experience in a more intimate setting. "It's really rare for someone in first year to have the opportunity to have basically one-on-one contact with a professor," he says. Calling the program a "chance of a lifetime," Robinson says he hopes to learn more about one of the planet's vital natural resources. "Just as computers were the things of the 20th century, I have a feeling that water might be the important force in the 21st century."

Twenty students will spend the 12-week semester in St. Andrews on New Brunswick's Bay of Fundy. The centre has long played host to a marine biology summer field course for fourth-year U of G students currently run by zoology professor Jim Ballantyne. The department also sends a team to New Brunswick each year to collect specimens for use in the senior undergraduate project course here.

Elsewhere, senior undergraduates take part in long-standing zoology and ecology field courses in Algonquin Park, the Canadian Arctic and Australia. This spring, the de-

partments of Zoology and Botany and the University of Malaya will offer a new joint field course on mangrove forest biodiversity and ecology.

Unlike those upper-level courses, the new Huntsman semester will be offered to students after their first year at Guelph. Hebert and Peterson say this is the only semester of its kind offered to first-year undergraduates at a Canadian university, as well as the first formal collaboration between their respective departments in field teaching.

"I don't know of any other university that takes students early in their program and gives them the chance to get into the field for the entire semester," says Hebert.

Emphasizing biodiversity, the new semester will include two invertebrate zoology courses and one new course on plant life being developed by the Department of Botany. (Called "Life Strategies of Plants," the latter will become a core course at both Huntsman and Guelph.) Students will conclude their Huntsman stint with a research project course, in which they might choose, for example, to map distributions of boreal plant species or study why certain clams live only in a particular stretch of the intertidal zone.

If they take a fifth course by distance education, students will have

completed a full semester during the summer, which means they could graduate early or take a different semester off to work and still finish their degree on time.

In addition to Peterson and Hebert, course instructors will be CBS dean Bob Sheath, botany graduate student Alison Sherwood, Prof. John Roff and staff members Greg Humphreys and Peter Smith of the Department of Zoology, and Michael Burt, Huntsman's director of academic programs.

Students were informed of the new offering during lectures last semester. From about 30 applicants, 20 students have been selected to take part based on grades, a short essay and their career goals. Hebert says that besides picking up invaluable field experience early in their university years, many students were attracted by the opportunity to study in a small group.

Apart from tuition, students will pay \$3,000 for the semester, comparable with the costs of room and board on campus for a semester.

In addition to its laboratories for research in fisheries and marine sciences, Huntsman is equipped with dormitories and food services. Hebert and Peterson say it is ideally situated on the Bay of Fundy for studying a wide range of plants and animals, with local habitats ranging

from the ocean to salt marshes and intertidal flats to acid bogs, lakes and mixed boreal forest.

Established in 1969 by a consortium of 20 universities — including Guelph — and government agencies, the centre celebrated its 30th anniversary last year. Today, its members include seven universities in New Brunswick, Quebec and Ontario, as well as federal and provincial education and research bodies.

Students will also become acquainted with other facilities in the area, including the Atlantic Reference Centre, which maintains a collection of plants and animals from Atlantic Canada, and an aquaculture station. The centre adjoins the St. Andrews Biological Station, a lab run by the federal Department of Fisheries and Oceans.

Organizers of the field semester hope to raise \$100,000 to establish an endowment that would pay for \$2,500 scholarships for two students enrolled in the program each year. About \$31,000 has been raised for the endowment, to be named in honour of former CBS dean Keith Ronald, who was instrumental in establishing the facility.

For more information about the endowment and giving opportunities, call senior development manager Will Rowe at Ext. 3655.

BY ANDREW VOWLES

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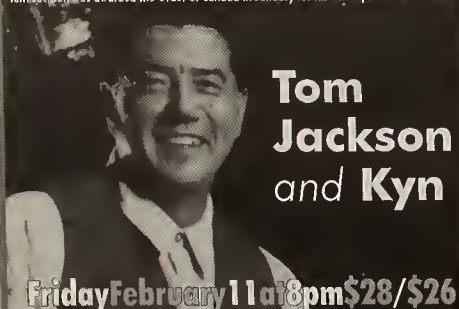
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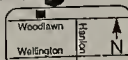
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ARBORETUM

Doug Barr presents interactive musical entertainment for children and adults Feb. 2 at 6:30 p.m. at the Arboretum Centre. Admission is \$5.

Theatre in the Trees presents the dinner-theatre comedy *Beyond a Joke* by Derek Benfield. Directed by John Snowdon, the play runs Saturdays until April 29. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are \$45 and are available at Ext. 4110.

ART CENTRE

Opening Feb. 5 at the Macdonald Stewart Art Centre is the exhibition "Mysteries of the Collection: Making History." It continues until Aug. 4. Gregory Klages, guest curator of the exhibition, will speak at the art centre's brown bag lunch series Feb. 8 at noon. The session will also feature Guelph artist Marion Manning, whose show "Tracking Dawn" opens in June.

Art historian Susan Douglas discusses post-modernism Feb. 4 at 11:30 a.m. at the art centre.

ATHLETICS

The men's hockey Gryphons host Laurier Feb. 3 at 7:30 p.m., Waterloo Feb. 5 at 7:30 p.m., Toronto Feb. 10 at 7:30 p.m., Queen's Feb. 19 at 7:30 p.m. and the Royal Military College Feb. 20 at 2 p.m.

In intercollegiate basketball, McMaster comes to Guelph Feb. 5 to play the women's team at noon and the men's team at 2 p.m. Guelph also hosts Waterloo Feb. 9 and Western Feb. 16, with the women's team playing at 6 p.m. and the men's team at 8 p.m. The men's Gryphons are at home to Brock Feb. 12 at 2 p.m. The Feb. 5 and 12 men's games will be televised on Hamilton's onTV.

Brock visits Guelph Feb. 12 to play the women's volleyball team at 1 p.m. and the men's team at 3 p.m.

CONCERTS

The Thursday noon-hour concert series continues Feb. 3 with cellist Andras Weber and pianist Sofia Moshevich performing works by Shostakovich and Stravinsky. On Feb. 10, Melliflence performs original works, with Paul Pacanowski on woodwinds, Joe Lagan on keyboards, Stuart Steinhart on bass synth and Mike McClelland on percussion. On Feb. 17, pianist Mary Kenedi performs works by Kenins, Southan, Rea, Behrens and Horwood. The concerts are in MacKinnon 107. Admission is free, but donations are welcome.

LECTURES

The Wellington Society for the Countryside lecture series presents Larry Lamb of the University of Waterloo and consultant Nancy

Cain discussing "Tallgrass Prairie as Turfgrass Alternative" Feb. 8 at 7:30 p.m. in Landscape Architecture 125. Cost is \$2 for members, \$5 for non-members.

Third Age Learning-Guelph's lecture series for retired people continues Feb. 9 with John English of the University of Waterloo discussing "Pearson Internationalism" at 10 a.m. and Prof. Nigel Bunce, Chemistry and Biochemistry, explaining "Global Warming: The Why and the How" at 2 p.m. Lectures are at the Arboretum Centre.

John Hare, a philosophy professor at Calvin College in Grand Rapids, Michigan, and an expert on ethical theory, will give two free public lectures on campus next week. He will discuss "Does Morality Need God?" Feb. 9 at 7:30 p.m. in Chemistry and Microbiology 200 and "The Spiritual Life of a Christian Academic" Feb. 10 at 7:30 p.m. in UC 103.

Patricia Monture-Angus, a professor of native studies at the University of Saskatchewan and author of *Journeying Forward: Dreaming First Nations Independence*, will give a women's studies lecture Feb. 15 at 2:30 p.m. in MacKinnon 121.

The Raithby Memorial Lecture series presents Dagnar Waberski of the Veterinary School of Hannover in Germany Feb. 17 at 9 a.m. in OVC 1714. Her topic is "Ultrasound Diagnosis of Ovulation and Ovarian Cysts in Pigs: How Can It Improve AI Efficiency?"

NOTICES

The Ecumenical Campus Ministry is hosting a retreat offering a day of care for the soul Feb. 13 from 10 a.m. to 4 p.m. at the Arboretum. Open to all faculty and staff, the day will include gentle workshops, time for solitude, non-denominational worship and group reflection. Cost is \$20. To register, call Rev. Lucy Reid at Ext. 2390.

The Stress Management and High Performance Clinic is offering a training program to help prevent repetitive strain at computer tasks Feb. 9 from 7 to 9 p.m. in UC 441. Cost is \$20 general, \$5 for U of G students. For more information, visit the Web site www.uoguelph.ca/~ksomers or leave a message at Ext. 2662.

The Brass Taps is hosting the 10th annual indoor beach volleyball tournament this week in the University Centre courtyard. Running until Feb. 5, the tournament features day and evening games, with teams competing for prizes, including a trip for four to Daytona Beach.

The Rotary Club of Guelph invites applications for the 2001/2002 Rotary Foundation Ambassadorial Scholarship. Aimed at furthering international understanding and

world peace, the scholarship is for one regular academic year at a study institution outside North America and is valued at up to \$25,000 US. Applicants must have completed at least two years of university when the scholarship begins and must apply through a local Rotary Club. Application deadline is March 1. For more information, call Bill Taylor at 824-8666 or send e-mail to willmary.taylor@sympatico.ca.

During the winter semester, the McLaughlin Library and Veterinary Science Library are open from 8:30 a.m. to midnight Monday to Friday and 10 a.m. to midnight on weekends and holidays.

The *Canadian Foreign Policy* journal is sponsoring the conference "New Perspectives on Canada's International Policies" at the Norman Paterson School of International Affairs in Ottawa May 4 and 5. New scholars are invited to submit proposals for papers on Canadian international policy issues related to trade, economics, politics, security, defence, development, environment, immigration and intelligence. Deadline for abstracts (up to 250 words) is Feb. 28. Send e-mail to cfp@carleton.ca, fax to 613-520-2889 or mail to: Editor, *Canadian Foreign Policy*, Norman Paterson School of International Affairs, Carleton University, 1125 Colonel By Dr., Ottawa K1S 5B6.

The Centre for International Programs is holding an open house Feb. 8 from 1 to 4 p.m. The centre is located on Level 2 of Day Hall.

SEMINARS

The Department of Microbiology presents Turlough Finan of McMaster University discussing "Sequencing a 1,700 Kilobase Bacterial Megaplasmid . . . Strategy, Progress and Lessons" Feb. 3 at 1:30 p.m. in MacNaughton 121.

"Food Labels Uncovered" is the topic of dietitian Heidi Smith Feb. 3 at 6:30 p.m. at the Health and Performance Centre. She will discuss misleading food labels and offer tips on how to choose the best products for optimal health. Cost is \$15. To register, call Ext. 3254.

The Department of Microbiology's graduate student seminar series presents Natalia Kaniuk explaining "Regulation of Bacterial Virulence Through Phase Variation" Feb. 4, Linda McKerral on "Variation in *Mycoplasma* Surface Antigens" Feb. 11 and Emmanuel Egbosimba on "Role of Glycosylation in Adherence of Fibroblast Succinogenes to Cellulose" Feb. 18. The seminars are at noon in Food Science 128.

The Department of Economics is hosting a visiting speaker series this semester. Herman Biersen of Pennsylvania State University discusses "Complex Unit Roots and Business

Cycles: Are They Real?" Feb. 4. On Feb. 11, Keith McLaughlin of the City University of New York considers "Testing for Asymmetry in the Distribution of Wage Changes." "Insurance Fraud and Optimal Claims Settlement Strategies: An Empirical Investigation of Liability Insurance Settlements" is the focus of Keith Crocker of the University of Michigan Feb. 18. The seminars begin at 3:30 p.m. in MacKinnon 234.

A series of financial planning seminars for members of the Professional Staff Association continues Feb. 7 with a discussion of tax planning at noon in UC 103. RSVP to parson2@investorsgroup.com.

The Axelrod Institute of Ichthyology's seminar series runs Tuesdays at 1 p.m. in Axelrod 168. On Feb. 8, Brent Murray discusses "Genomic Analysis of the Zebrafish Major Histocompatibility Complex Class 1A Region." On Feb. 15, Yuxiang Wang of the University of Waterloo considers "Strange Fish in a Strange China Lake."

The biochemistry seminar series presents Daniela Rotin of the Hospital for Sick Children discussing "Regulation of the Epithelial Na Channel by the Ubiquitin Ligase Nedda4" Feb. 17 at noon in MacNaughton 222.

TEACHING SUPPORT

Teaching Support Services is offering technology clinics throughout the semester for instructors and teaching staff who are developing Web sites, preparing PowerPoint presentations or creating multimedia course materials. Clinics run Mondays and Thursdays from 1 to 4 p.m. in Day Hall 211. Support staff will be available to provide help with PowerPoint, digital imaging and scanning, sound and video on Mondays and HTML-based projects and WebCT development on Thursdays. Those wishing to work on their own can book workstations at other times during the week. For more information or to reserve a workstation, call Pat Thompson at Ext. 2965.

The TSS workshop series featuring hands-on training in the use of learning technologies continues Feb. 4 with "Web Design: Tips and Tricks" Feb. 11 with "PowerPoint I: An Introduction," Feb. 15 with "HTML II: Looking Under the Hood" and Feb. 22 with "WebCT: Hands-on." For full details, visit the Web site www.tss.uoguelph.ca. Register online or by calling Mary Nairn at Ext. 3571.

The TSS workshop series on "Raising the Bar: Experiential Learning at Guelph" continues Feb. 9 with "Principles of Learning in Higher Education" and Feb. 14 with "Capstone Courses: The Transition from School to Work." For more information or to register, visit the Web site

www.tss.uoguelph.ca or call Susan Rinkus at Ext. 3107.

THEATRE

The Love of Louis Theatre company, composed of U of G students and alumni, presents *Criminal Genius* by George F. Walker Feb. 10 to 15 in Lower Massey Hall. Tickets are \$8 and are available at the door. Donations will be accepted for a special pay-what-you-can matinee Feb. 13 at 2 p.m. For more information, call Amanda Arkle at 827-0914.

THESIS DEFENCES

The final examination of Carita Bergman, a PhD candidate in the Department of Zoology, is Feb. 9 at 2 p.m. in Axelrod 265A. The thesis is "Behavioural Responses to Resource Availability by Northern Ungulates." The adviser is Prof. John Fryxell.

The final examination of PhD candidate Yusman Syaikat, Agricultural Economics and Business, is Feb. 17 at 1 p.m. in MacKinnon 230. The thesis is "Economics of Conjunctive Surface and Groundwater Use Management in the Jakarta Region, Indonesia." The adviser is Prof. Glenn Fox.

COMMUNITY EVENTS

The Edward Johnson Music Foundation presents "Wine 2K," its fifth annual wine gala and auction, Feb. 26 at 6 p.m. at the Cutten Club. The evening features a wine walkabout and food exposition, guided wine tastings and silent and live auctions of items donated by local businesses and artists. Tickets are \$75 (with an extra charge for some guided wine tastings). Proceeds support the foundation and the Guelph Spring Festival. To order tickets, call 821-3210.

The Big Sister Association of Guelph will hold its silver-anniversary auction March 2 at 7:30 p.m. at the Cutten Club. Honorary chair of this year's auction is Nancy Sullivan, U of G's vice-president (finance and administration). Tickets are \$15 and are available by calling 824-0800 or Ext. 3343.

McCrae House hosts a Valentine tea Feb. 9 at 2 p.m. Cost is \$5.50. Reservations are required at 836-1221.

The Guelph women's slo-pitch league is accepting registrations for the 2000 ball season. Games are Monday evenings. Participants must be 27 as of April 30. For more information, call 821-6947 or 821-7119.

The Trillium Children's School presents Eugene Swartz, director of teacher training at Sunbridge College in Spring Valley, N.Y., discussing "Can the Millennial Child Have a Childhood?" Feb. 5 at 10 a.m. at 577 Willow Rd. For more information, call 821-5140.



U E L P H

VOL. 44, NO. 3

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- 6 **WORK** under way to improve the quality of herbal products.
- 7 **CURIOSITY** and science go hand in hand for geneticist.
- 8 **MALAYSIA** to host U of G field course.
- 10 **ONE-TIME** OAC course finds a 25-year niche.

BEEKEEPERS, BEWARE

Two potentially devastating parasitic mites are threatening the survival of honeybees in Ontario, says Medhat Nasr, a technology transfer specialist for the Ontario Beekeepers Association based at U of G. The mites, which have migrated from the United States, have the potential to cause not only a shortage of honey but also major problems for fruit and vegetable producers who rely on bees to pollinate their crops. Nasr is trying to stem the potential devastation with an integrated program that combines genetics and traditional pest-control methods. See story on page 6.

PHOTO BY MARTIN SCHWALBE



Web Training a Hit

A PILOT PROJECT launched in the fall by Computing and Communications Services (CCS) to offer computer training via the World Wide Web has received the go-ahead to continue this winter. Response to the three-month pilot, which offered members of the University community free access to interactive self-paced tutorials on dozens of topics through Ziff-Davis Education, was extremely positive, says Shayla Steeves, communications specialist and IT training co-ordinator with CCS Client Services.

"Participants were pleased with the convenience, the efficiency and the flexibility, as well as the actual content of the courses," she says. "They liked knowing that they didn't have to wait for a course to happen or leave their office to take it. They can learn at their own pace in privacy without feeling any pressure."

People also recognize the importance of keeping their computer skills up to date, says Karen Kovats, training and development co-ordinator in Human Resources. "Workplaces are demanding increasingly higher technical standards, and Web-based training is becoming the norm all the way around. It's a universal platform that gives everyone access to development opportunities."

The most popular course during the fall pilot was Excel 97. Other top favourites were FrontPage 98, HTML 4.0 Programming and Windows 95.

Continued on page 11

Fauré Is His Forte

Music prof writes first annotated bibliography of little-known French composer

IF HE WERE a more adept pianist, Prof. Edward Phillips, School of Fine Art and Music, might use performances to draw more attention to the works of little-known French composer Gabriel Fauré. But piano not being Phillips's forte, he has summoned his research and writing skills in an attempt to spotlight a musician described by 20th-century composer Aaron Copland as a "neglected master."

In the fall, Phillips completed a 10-year odyssey when he published *Gabriel Fauré: A Guide to Research* (Garland Press). The book is the first annotated bibliography on the composer, who lived from 1845 to 1924, and the first detailed index of primary sources for his music.

Including more than 1,100 citations and describing more than 200 manuscripts, the volume is the most up-to-date reference for nearly everything written by and about Fauré.

"I'm compulsive," says Phillips. His paper chase involved voluminous correspondence as well as meticulous reading of manuscripts and writings in libraries in the United States and France. He travelled to the Bibliothèque Nationale in Paris — the repository of most Fauré material — five times. "I wasn't going to do it unless it was complete."

If few people are well-acquainted with Fauré's work, Phillips concedes

that even fewer are likely to peruse this new volume. Only about 60 scholars worldwide study Fauré or his involvement in French music of the late 19th century. But the Guelph professor says he's less interested in promoting his new book than in tweaking interest in the works of his subject. "I'd be happier if there was greater acceptance of his music."

Fauré wrote numerous chamber and piano works, as well as a Requiem Mass and an opera, *Pénélope*. Although he was respected in his lifetime as a teacher and church musician, his work has never attained the popularity of that of contemporary composers such as Claude Debussy. That's so for two main reasons, says Phillips.

Although highly regarded for his musicianship, Fauré lost marks because he wrote only one opera. "If you didn't write opera in the late 19th century, you were nobody," says Phillips. Perhaps more important, Fauré's austere classical work demands attentive listening. "It's music you have to spend some time with before it speaks to you."

For music historians, Fauré holds special interest because of his explorations of the boundaries of tonal music. He worked during a period when composers were moving away from the tonal style that had prevailed since Bach, toward an atonal

style that gained a following beginning in the early 20th century.

Phillips's research turned up at least one "missing" manuscript. He has also corrected errors by other music scholars, including determining that a cadenza that Fauré had supposedly written for one Mozart concerto was actually composed for another of the latter's works.

Now editing two of Fauré's student works for piano held at Yale University, Phillips plans to write a book on the composer's later works and his influence on other French composers.

Among Fauré's own students were Maurice Ravel and Nadia Boulanger, a French organist and teacher who in turn taught Phillips while he was studying in France during the early 1970s.

Phillips arrived at Guelph in 1985 as chair of the then-department of music. An accomplished organist, he has been a church organist and choir director in Waterloo since 1995. This year, he is also directing the U of G Choir.

His work has been funded by U of G, the Social Sciences and Humanities Research Council and the U.S. National Endowment for the Humanities.

BY ANDREW VOWLES

Two to Receive Honorary Degrees

University to award 680 degrees and diplomas at winter convocation

U OF G WILL AWARD two honorary degrees and 680 degrees and diplomas during winter convocation Feb. 23 and 24 in War Memorial Hall.

Honorary degrees will be presented to Alan Cox, director and CEO of the National Tropical Botanical Garden in Hawaii, and Jocelyne Bourgon, president of the Canadian Centre for Management Development in Ottawa.

Cox studies the medicinal and health effects of chemical compounds produced in plants. His experiments have led to the identification and patenting of two nutraceutical compounds. He conducts much of his research in Polynesia, where he works to support the culture of indigenous people, and he holds academic positions at Brigham Young University and Uppsala University.

Cox will receive a doctor of science degree and will address graduands of the College of Biological Science Feb. 23 at 10 a.m.

Bourgon was the first woman to hold the position of clerk of the Privy Council and secretary to the Cabinet. She served in this capacity and as head of the Public Service of Canada from 1994 to 1999. In her current position, she addresses the challenge of rebuilding public service leadership.

Bourgon will receive a doctorate of laws and give the convocation address Feb. 23 at 2:30 p.m. at the ceremony for the College of Social and Applied Human Sciences.

The ceremony for graduates of the College of Arts and the College of Physical and Engineering Science will be held Feb. 24 at 10 a.m. Retired physics professor Jim Hunt, who received the Medal of Merit in 1999, will give the convocation address.

The ceremony for graduates of OAC and OVC is Feb. 24 at 2:30 p.m. Prof. Ian Duncan, director of the Colonel K.L. Campbell Centre for the Study of Animal Welfare, will deliver the convocation address.

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SENATE REPORT

President, provost reaffirm commitment to academic freedom

AT SENATE'S FIRST MEETING of the 21st century Feb. 8, president Mordechai Rozanski and provost Iain Campbell strongly reaffirmed the University of Guelph's commitment to academic freedom. Noting recent concerns expressed about the right of a faculty member to speak publicly on controversial issues, Campbell said faculty have the right to talk about

whatever they wish at any time without fear of recrimination (see below for the full text of his remarks). Following Campbell's remarks, Rozanski said he was encouraged by the increasing recognition of the importance of civility during debates over the most controversial issues. This, he said, is the true measure of a university's academic values.

The president reported to Senate that Ontario universities continue to press for government action on increased funding for post-secondary education, but no date has yet been set for the government's announcement on transfer payments. He also noted that work on the University's campaign is continuing and that plans are moving forward.

Rozanski informed senators that planning for Guelph's response to the anticipated increase in demand for access to universities is proceeding through the work of the double cohort cluster groups, led by Prof. Ken Grant, director of institutional analysis. Grant said it is extremely difficult for the University to determine its optimal response to the an-

ticipated increases over the next few years, let alone the next 10, without knowing the financial parameters to be determined by the provincial government.

Despite the funding uncertainties, Guelph's planning process must continue because the planning horizon is short, said Grant. He reported that four planning clusters have been struck and have begun modelling the implications of a hypothetical enrolment growth scenario on the academic, student support and administrative units at the University, assuming operating funds will be increased.

The hypothetical scenario assumes that U of G will increase its steady-state enrolment to about 18,000 undergraduate and graduate

students on the Guelph campus by 2007 and that annual intake will rise by about 750 to 800 over current levels, beginning in 2003. Grant stressed that this scenario does not represent University policy, but is necessary so that all cluster groups can begin their analysis on a common basis.

Brenda Whiteside, acting associate vice-president (student affairs), reported on U of G's anticipated housing situation for students in fall 2000. Current estimates indicate that campus residences will have a fairly large waiting list in September, she said, and the University is taking a number of steps to help ease that situation. These in-

Continued on page 10

'Let the Debate Proceed'

Editor's note: The following comments were made by provost Iain Campbell at the Feb. 8 meeting of Senate.

SOME CONCERNS have been expressed in the last couple of weeks on and off our campus about academic freedom. They arose from a newspaper interview with the dean of OAC concerning aspects of the GMO debate in which various of our faculty, including Prof. Ann Clark, are involved. The president and I reviewed this matter on the day the report was published, and as a result of our review, I wrote on behalf of the administration to the last issue of @Guelph, affirming this University's strong support for academic freedom. You may not all have read that letter, so I thought it would be useful and appropriate to reprise it briefly here.

Before I do that, I would like to thank the Faculty Association. After my letter was submitted, they wrote to me asking for a statement by the president and the provost on academic freedom, which was of course what we had already worked on. I appreciated the concerned but courteous manner in which they have handled this matter, seeking, as the president and I seek, the greater good of the University.

As I wrote the administration's letter to @Guelph, working with the president, I drew on legal expertise available to me and also on ethical expertise. Such a letter is not a quick response dashed off in a few moments.

The main message the president and I sought to convey was a very simple one — the strongest possible reaffirmation of academic freedom. Prof. Clark has the freedom, as do all of us, to talk on whatever she wishes in any place at any time. And there can be no fear of recrimination for doing so. It is people who face up to important issues of the day that help us fulfil our duty to debate publicly those matters and issues of the day where we need an informed public and responsible public policy.

I've dealt with academic freedom. Let me now address some other matters.

I drew attention to some responsibilities that the president and I think we all carry, as scholars who are supported by the broader society. Lay audiences do not always realize that we all speak freely and that we are not expressing some institutional viewpoint of the University per se. It is wise to ensure that our audiences realize that.

It is also a simple matter of courtesy and responsibility to ensure that our audiences know our disciplinary

background and where we are coming from.

The word "unethical" was attributed to the dean in the newspaper interview. I must make it crystal clear that the president, the dean and I all find that word entirely inappropriate. Whatever the concern any one of us has about any other in this academic community, this kind of language is not how we proceed, nor is its promulgation in the press. The dean has addressed this matter in a letter that he has already sent to @Guelph (see page 4), and in that letter he apologizes for this. I understand the letter was copied to the Faculty Association and Prof. Ann Clark, and I have received a copy, too. I acknowledge the dean and his action.

This has been difficult, no doubt about it. It illustrates many things, not least the high duty of care that we academic administrators have generally, and also very specifically with the press. But we will come through this, more dedicated than ever to our academic values, because we have reaffirmed some absolute fundamentals — freedom of speech and mutual respect. And it doesn't hurt to have that reaffirmation now and then. So let the debate proceed, whether it be on GMOs or nuclear energy or health-care policies. Let us all be about our business, with care and courtesy and respect.



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**STUDENT ELECTIONS
RUN MARCH 6 TO 9**

The Central Student Association (CSA) will hold its annual general elections March 6 to 9. The elections of undergraduate students to seats on Senate and Board of Governors will be held in conjunction with the CSA election. The graduate student election for Senate and B of G will be conducted at the same time by mail ballot. Ballots will be mailed out Feb. 23 and must be returned to the board or Senate offices by March 9 at 4:30 p.m. Nomination deadline for the elections is Nov. 18.

**STUDENT HOUSING SERVICES
HOSTS 20TH ANNUAL
RESIDENCE LIFE CONFERENCE**

Student Housing Services hosted the annual Residence Life Conference of the Ontario Association of College and University Housing Officers Feb. 4 to 6. This year marked the 20th anniversary of the conference, which originated at Guelph and has been held here frequently over the years. This year's theme was "You're a Superstar," reflecting the dedicated work of the student paraprofessional staff who make up the majority of conference delegates and staff in university residence life departments. Close to 360 delegates attended from colleges and universities throughout Ontario, as well as from Quebec, Illinois and Ohio. The conference was organized by the Student Housing Services Residence Life Management Team with help from residence assistants. It was coordinated by Barry Townshend.

**INTERNATIONAL RSI
AWARENESS DAY FEB. 29**

The Guelph and District Labour Council and the U of G Staff Association are marking International Repetitive Strain Injury Awareness Day Feb. 29 from 7 to 9 p.m. in UC 442. The evening will feature short videos and a panel discussion featuring Martha Leduc of the Workplace Safety and Insurance Board, Helen McRobbie of Occupational Health Clinics for Ontario Workers, physiotherapist Andy Wang and Cathy Walker, national director of the Canadian Auto Workers health and safety department.

**MAPLE SYRUP DAYS KICK OFF
FEB. 26 AT ARBORETUM**

The Arboretum launches its annual Maple Syrup Days with a pancake breakfast Feb. 26 from 9:30 to 11:30 a.m. at the Arboretum Centre. Cost is \$2 or \$5 for a family. On Feb. 26 and 27 and continuing every weekend until March 26 and daily throughout the week of March 13, you can experience the sights, sounds, smells and tastes of maple syrup from 10:30 a.m. to 4:30 p.m. Events include puppet shows, guided tours of the sugar bush and demonstrations of tapping and syrup making. Cost is \$3.50 for adults, \$2.50 for children under 12, \$18 for two adults and six children.

How Do Young Children Injure Themselves?

Researcher hopes to develop methods for intervention and prevention of accidents



Parents may unconsciously be putting their sons at greater risk of injury by encouraging them to take risks, says psychology professor Barbara Morrongiello, shown here with two of her own sons, Grant and Daniel.

PHOTO BY MARTIN SCHWALBE

FOR FIVE YEARS, Prof. Barbara Morrongiello, Psychology, has been researching in relatively uncharted waters, asking why and how young children injure themselves.

"In Canada, unintentional injuries are the number one cause of death and hospitalization for children beyond one year of age," she says. "We have a lot of epidemiological evidence on the injuries themselves, but surprisingly little on why and how these injuries are caused."

Armed with new funding from the Social Sciences and Humanities Research Council, Morrongiello is embarking on a year-long study into the causes of in-home children's injuries. Combined with recent studies she's completed, she's hoping to develop methods for intervention and prevention of these accidents.

One recent project tried to discover why, beginning at age three, young boys experience two to four times as many injuries as girls. In the fall of 1999, Morrongiello and research assistant Theresa Dawber published findings that parents may unconsciously be putting their sons at greater risk of injury by encouraging them to take risks and offering less assistance in performing potentially dangerous tasks than they offer to daughters.

The two researchers discovered that parents socialize boys for risk taking and could therefore be placing them at greater risk of sustaining injury. The study also suggests that the ways parents communicate with their children may be shaping and promoting sex differences in children's risk taking.

Their research appears in the *Journal of Applied Developmental Psychology*.

As part of their studies, the Guelph researchers examined how parents taught their children aged two to four to slide down a

firehouse-type pole. The results are revealing. Boys received more directives to complete the task independently (without parental assistance) and fewer explanations on how to complete the task, and were subjected to more pressure to complete the task. In contrast, girls received more spontaneous physical assistance than boys did and were more likely than boys to receive comments from parents that emphasized injury vulnerability and caution.

The results were similar regardless of whether the mother or father was giving the directions to the child. There were also no differences in the skills or abilities of the boys and girls participating in the study.

In the survey of 48 families, Morrongiello and Dawber found that parents issued directives or expectations to sons 65 per cent of the time, versus only 19 per cent of the time to daughters. Parents spontaneously (without prompting) provided physical support to daughters to assist completing the task 67 per cent of the time, but gave spontaneous support to boys only 17 per cent of the time.

When a child resisted the request

to complete the task, 58 per cent of the time parents insisted that sons continue the task without assistance, often communicating this in a more insistent manner than that used with girls.

On the potential cumulative effects of such socialization, Morrongiello and Dawber write: "One possibility is that boys may come to assume that it is appropriate and acceptable for them to engage in risk-taking behaviours, and they may come to assume that they can manage injury risk successfully, otherwise their parent would not be encouraging such behaviour. Another possibility is that... it may heighten girls' awareness of injury risk and their concerns about their vulnerability for injury, thereby deterring them from engaging in behaviours that pose a threat of injury."

Morrongiello's new study will look at children aged two to six. With two graduate students, she also has a paper under review about children's knowledge and understanding of home-safety rules and how these factors affect injury rates.

BY ALEXANDER WOOLEY

Four Trees to Be Felled

GROUNDS STAFF will fell four of the 14 sugar maples on the western edge of Johnston Green later this month.

Last year, a consultant hired by U of G found the dying trees are posing a safety hazard and recommended their removal.

The trees will be felled Feb. 21 and 22 (during the first two days of reading week and before winter convocation). The stumps will be removed after the spring thaw.

The consultant's report had also

recommended that Grounds carry out maintenance measures on the remaining trees. That work, including pruning branches and installing support cables and braces, will be done this winter.

The recommendation to remove the trees was approved by the U of G Landscape Advisory Committee. That group, chaired by Garry Round, executive director of Facilities and Hospitality Services, is also reviewing and updating the University's landscape advisory plan.

PEOPLE

**NASBY TO CURATE INUIT ART
EXHIBITION IN ARIZONA**

Judith Nasby, director of the MacDonald Stewart Art Centre (MSAC), has been invited to guest curate an exhibition for the Heard Museum in Phoenix, Ariz. The exhibition will feature works from the Inuit art collection of Daniel and Martha Albrecht of Phoenix, who have one of the largest and most comprehensive collections of Canadian Inuit art in the United States. The show will open concurrently at the Heard Museum with MSAC's touring exhibition "Qamanittuaq: Where the River Widens" and will run April 15 to Oct. 15. Nasby will also give public lectures at the Heard Museum on both the Albrecht collection and the MSAC exhibition.

**SOCIOLOGY PROFESSOR
ADDRESSES MCMASTER
BOARD OF GOVERNORS**

Prof. Fred Evers, Sociology and Anthropology, was invited to give the opening presentation at the McMaster Board of Governors retreat Feb. 5. He discussed the characteristics of knowledge-based workers, the demand for them and the role of universities in preparing them. The presentation was based on results reported in *The Bases of Competence: Skills for Lifelong Learning and Employability*, a 1998 book by Evers, James Rush and Iris Bedrow, and the 1999 Council of Ontario Universities report *Ontario Students, Ontario's Future*.

**MEMBERS OF CULTURAL
MEMORY PROJECT****PARTICIPATE IN WORKSHOP**

Members of the Cultural Memory Project and Guelph-Wellington Women in Crisis recently participated in a workshop titled "Violence, Memory, Justice: Honouring Change/Exploring Strategies," organized by the Institute for Women's Research at McMaster University. Prof. Christine Bold, acting co-director of the School of Literatures and Performance Studies in English and director of the Centre for Cultural Studies, drama professor Ric Knowles, Jodie McConnell of the Human Rights and Equity Office, graduate research assistant Lisa Schincariol and Sly Castaldi from Women in Crisis spoke on the collaborative project between the Centre for Cultural Studies and Women in Crisis and the relationship between feminist memorializing and working for change.

MEMORIAL GATHERING SET

A memorial gathering will be held March 1 at 5 p.m. at the Arboretum Centre for retired psychology professor David Piggins, who died suddenly Jan. 21 in Wales, where he had been a visiting research fellow. An informal reception will follow.

REPRESENTATIVE NAMED

Prof. Jean Mayer, Political Science, has been named U of G's representative to the general assembly of the Humanities and Social Sciences Federation of Canada.

LETTERS

PUBLIC COMMENT WAS INAPPROPRIATE

The U of G Faculty Association has asked that I respond publicly to issues raised by an article that appeared in the *Toronto Star* Jan. 19.

My concern was not, and is not, with Prof. Ann Clark's opinion of Canada's food regulatory system. Every citizen of Canada is entitled to his or her opinion, and every professor at Guelph has the right, through academic freedom, to make his or her views on any topic freely known without fear of recrimination from University administration.

As dean, I have repeatedly and vigorously defended faculty who have publicly expressed a view that was contrary to prevailing opinion in the agri-food industry. That is, in part, what universities are about. Academic freedom is healthy, and it must be protected as we move into an era where science will continue to challenge us with methodological, social and ethical dilemmas. Achieving truth and shaping responsible public policy require vigorous debate.

In short, Prof. Clark has every right to openly criticize the integrity of Canada's food regulatory system, and I will continue to support this right.

Thus, my comment about her "unethical" behaviour was not prompted by the nature of her remarks, where she made them, to whom they were directed or to the fact that she made them at all. The issue for me does not relate to her academic freedom. Rather, my comments referred to a perception that she might not have adequately identified her area of expertise or made it clear that her opinions and research did not represent the University.

Issues surrounding genetically modified foods and the Canadian regulatory system are extremely critical to Canada's future ability to participate in a global marketplace. It is absolutely imperative that those of us from universities who engage in this debate do so fairly and with full disclosure. This is a responsibility that comes with the privilege of academic freedom.

Nevertheless, I owe Prof. Clark an apology. Use of the word "unethical" was inappropriate. I well understand that my comments could be perceived by her and others to challenge her academic freedom, and this was most surely not my intent. It was also inappropriate for me to convey my concerns through the press. I recognize that, as a member of our academic community, I have a duty to follow University policies and I was wrong to comment publicly.

Prof. Rob McLaughlin, Dean
Ontario Agricultural College

IN DEFENCE OF FREEDOM OF FACULTY RESEARCH

Provost Iain Campbell's letter giving "the University's views on academic freedom" (@Guelph Feb. 2) is disquieting. The University here and elsewhere seems to be setting policy on the fly to appease the genetically engineered food lobby on campus and the enormously powerful financial interests it represents.

In the spirit of the provost's call for "absolute clarity," there are two repressed questions that need to be asked of the position he represents as "the University's."

(1) Are public attacks by academic deans on individual faculty in their colleges on behalf of one side in a public debate now acceptable in the University's administrative processes? Is there now an open right for a dean to use his or her academic office to launch personally damaging public attacks on an individual faculty

member whose career is subject to the confidential peer-review processes the administrator is responsible for?

This problem is not considered by the provost's explanation. But he implies a "yes" answer to these questions by his implicit acceptance of just such unprofessional behaviour from the dean of OAC, who denounced one of his college's faculty as "unethical" in the *Toronto Star*. Will the next provost be appointed to prevent this kind of abusive public behaviour by the OAC dean or to continue to condone it?

(2) Has interdisciplinary research to which the University is constitutionally committed now become in fact liable to administrative denunciation as "unethical"? The provost implies as much by indicating that public speech by faculty should be accompanied by statements of one's "academic degrees and subsequent expertise in a particular field." A new University limit on academic freedom is thus implied in which one is obliged not to speak freely on the basis of evidence, reason and the search for truth, but only conditionally by declaring one's history in "a particular field and expertise." Otherwise, personal attacks in the press with impunity by academic administrators responsible for peer review of one's work may follow.

What deeper chill could there be to the academic freedom to speak out against, specifically, the research of disciplines that have been hijacked by a funding regime that now selects against any faculty research that does not serve to increase the private revenues of external agribusiness corporations? What better way could there be of undermining interdisciplinary research and wider academic responsibility across the disciplines of this university, in which these private corporate interests have become ever more aggressive and dominant?

How could such pioneering academic leaders of our time as Ursula Franklin, Noam Chomsky or Linus Pauling, for example, have survived at Guelph with such administrative defamation for their speaking out on matters in which they had no past degree? In a world where the closed tunnel vision of narrow expertise is the principal blindness of our age, has the University now set a tacit policy to permit administrative and career attacks on anyone who breaks out of these blinkers against breadth of view?

After the ringing endorsement of academic freedom the provost begins his letter with (a statement that eloquently endorses the very right to criticize that I exercise here), he then undermines the actual possibility of academic freedom being exercised in OAC by, in effect, condoning the public decanal bullying of a faculty member who dares to raise the issue of the safety of genetically engineered foods, which are pushed by powerful external corporate interests that increasingly control the University's scientific research through administrative/agribusiness deals.

The crisis of academic freedom now upon us has almost no one with the courage to speak out because of growing fear of loss of research funding and career prospects. Prof. Ann Clark is a notable and valuable exception. Read her careful, documented positions next to the bombast of her critics. But the provost has failed both her and the University's own learning mission with this refusal to protect such a faculty researcher against unsubstantiated administrative attack by her dean. This is a case where resignation is the appropriate consequence for such public misuse of academic administrative office.

Prof. John McMurtry
Department of Philosophy

WHAT ARE BOUNDARIES TO ACCEPTABLE DEFAMATION?

The letter from provost Iain Campbell in the Feb. 2 issue of @Guelph was a great disappointment. Like the curate's egg, it was good in places, but overall was a soft-boiled evasion of the main issue in the McLaughlin case.

The exercise of academic freedom is, in the University's view as provided by Campbell, to be bounded by "clarity." The expression of a faculty member's view must first distinguish the view of the individual from that of the institution and, second, indicate the academic basis on which the individual claims the privilege of expertise to address the issues.

One suspects that dean Rob McLaughlin's views were solicited precisely because of his senior administrative office and the authoritative tone popularly associated with the dean of agriculture at a university that regularly promotes its expertise in agricultural affairs rather than his appointment as a professor of crop science—the same department as that of Prof. Ann Clark.

Similarly, the provost presents "the University's views" from the fourth floor. His categorization of the term "unethical" as "not the best choice of words" is blindingly self-evident, but that is not enough. It is grossly inadequate as an authoritative statement of the University's understanding of academic freedom. If the strongest defence of academic freedom that can be mounted is to disapprove of a linguistic misadventure, and if an allegation by a senior administrator of unethical behaviour is seen merely as a malapropism, what then are the boundaries to acceptable defamation? Is the senior University administration so paranoid of criticism of any of its members that it is truly petrified (putrefied)? So much for collegiality! So much for academic freedom!

The second dictate of clarity suggested by the provost is too reminiscent of Gilbert and Sullivan to be truly funny. As Pooh-Bah (Lord High Everything Else) observed in *The Mikado* when wondering how to respond to a question on a mundane budgetary issue: "In which of my capacities? As First Lord of the Treasury, Lord Chamberlain, attorney general, Chancellor of the Exchequer, privy purse or private secretary?"

Which narrow academic disciplines are relevant to consumer issues regarding the regulation of genetically modified organisms? Only some administratively pre-approved agricultural sciences? Are others to be excluded from the right to express their views? Ethical and regulatory issues are grist to the mill of many, not just of the elusive bioethicist. Is the blandness of official publications now to be imposed on all other means of communication?

It is many years since the Canadian Association of University Teachers and the Association of Universities and Colleges of Canada jointly sponsored the Commission on University Government in Canada (1966). The following quotation shows how weak U of G's position, as articulated by the provost, is in comparison with that of the commission: "Academics... are not the easiest of men (sic). It is their professional duty to think and to express their thoughts, and they cannot be prevented from thinking outside the range of their own subject matter. They are certain therefore to disagree, not only with each other but with those in authority, from their faculty dean upwards to the national government. But the academic often has one virtue corresponding to this defect (if it is a defect). His training should have taught him to disagree, even violently, without supposing that his opponent is a bad

man." (italics mine).

I suspect that commissioners Sir James Duff and Robert Berdahl might accept a friendly amendment to substitute "unethical" for "bad."

Too bad that U of G missed the opportunity to support the principles of academic freedom and courageous leadership.

Prof. John Pratschke
Consumer Studies

UNIVERSITY A PLACE FOR DEVELOPMENT OF CRITICAL UNDERSTANDING

I was very pleased to see in the Feb. 2 issue of @Guelph the provost's spirited defence of academic freedom and his assertion of its vital importance to the University. I believe it is crucially important that the senior members of U of G be seen to stand up for the basic values of the University, and the appearance of this letter and the provost's subsequent assertion of these values at Senate Feb. 8 did much to reassure me in this regard.

In my view, the importance of academic freedom is not simply the right it gives to members of the University to carry on study and research in their chosen areas without fear of censorship and to speak in public of their views without fear of retribution. These are indubitably important, but to focus solely on the importance of academic freedom for individual members of the University is not enough.

Although C.B. MacPherson, in his 1969 presidential address to the Canadian Association of University Teachers, had a somewhat different context in mind, I agree with his view that "the task is to make the university not just a place for the creation of knowledge, but above all a place for the development of critical understanding."

New facts or scientific discoveries, however innovative and exciting, do not in themselves constitute complete knowledge. Equally important are the implications of these facts or discoveries for other areas of knowledge and on society. I would argue that only through the willingness of individuals from many different disciplines to enter into these wider debates, and through their ability to do so without fear of retribution, can the primary goal of the university, the creation of knowledge and understanding, be truly achieved. To quote the provost, this "is the surest way to the truth."

This point is often not fully understood by individuals and organizations outside the university, and it is important that senior members of U of G be prepared to reiterate it whenever and wherever necessary.

Prof. Carole Stewart
Dean, College of Arts

CRICKSTON PARK MUST REMAIN IN PUBLIC HANDS

I am responding to two articles on Crickston Park in @Guelph Jan. 19, one an interview with Nancy Sullivan, vice-president (finance and administration). I believe these articles, together with other recent statements by senior administration, misrepresent what is at stake ethically in Guelph's decision to sell this property. I am familiar with Crickston, with the conditions under which it was donated by Matthew Wilks Keefer and with many aspects of the University's handling of the gift. (I was a guest of the Keefer family at Crickston a number of times and, from 1991 to 1993, was a member of the Crickston Park Farm Advisory Committee.)

Continued on page 5

LETTERS

The University's treatment of Mr. Keefer's gift has quite rightly become controversial. In a Nov. 19 op-ed article in *The Record*, Ms Sullivan said "the University has never had anything but the sincerest appreciation for the gift and respect for Keefer's intentions." This is open to question on both counts.

Responding to those who would like Cruickston left undeveloped, she declared that "the University cannot be the benevolent supporter of this property in perpetuity." She must have momentarily forgotten that the gift included a donation of \$2.5 million (now worth many times its mid-1970s value). To justify the sale of a property that was in fact well-endowed by representing it as a financial burden seems disingenuous rather than sincere. Correcting this omission in *@Guelph*, Ms Sullivan now says the University "acknowledged this generous donation and has used it to maintain the property." Again, some skepticism may be in order.

When the estate's magnificent horse barn needed roofing in 1975, the University chose to demolish it. The once-beautiful gardens were grassed over in 1990. The roof of the property's manor house (built in 1857 and regarded by heritage architects as one of the most significant pieces of domestic architecture in Ontario) was repaired in 1991, but only after significant water damage had occurred. In 1995, an attempt to economize on heating resulted in burst pipes and more major water damage. Lovers of historical architecture might be forgiven for heaving a sigh of relief when, after this record of stewardship, the University sold the house and 53 acres in 1996 to the Chaplin family, who are painstakingly restoring it.

But what of U of G's claim that selling the remaining property (and in all probability its subsequent commercial development) would fulfil the donor's intention? In *@Guelph*, Ms Sullivan cites a letter from Thomas McEwan, chair of Board of Governors from 1964 to 1968, who says Mr. Keefer's "only request to the University was to keep the land intact during his lifetime so that he and his wife and two sisters could spend their remaining days on the property undisturbed." Ms Sullivan says University lawyer John Hamilton has also confirmed that Mr. Keefer "requested no further limits on the use or disposition of the property and that the University promised none."

Mr. McEwan's letter is directly contradicted by Mr. Keefer's will. Although the will does abstain from placing "any limitation or restriction upon the University of Guelph," it expresses Mr. Keefer's hope that the substantial "residue" of his estate "will be used towards the maintenance, repair and improvement of the Cruickston Park land and premises which I have given to the University of Guelph and towards such research and studies as may be carried out by the University at Cruickston Park rather than towards the general work of the University at other locations."

When Mr. Keefer's widow and sisters asked the University to assume management of the property in 1973, then-president Bill Winegard explicitly acknowledged the University's commitment to carrying out site-specific work at Cruickston.

The University's decision to sell the property and invest the proceeds in an endowment fund to support work "at other locations" is thus a direct violation of the gift's intention. Ms Sullivan says correctly that Mr. Keefer "wanted to help the University support its core mission of teaching and research," but her claim that the property's sale would fulfil this intention is unsupported by any trustworthy documentary evidence, as is the view that he wanted the gift devoted to agri-food research alone. He did not presume to definitively define the nature of the "research and studies" to be supported by his gift; he did indicate clearly that he wanted Cruickston maintained, repaired and improved — and to be the site of any work supported by his generosity.

Ms Sullivan's op-ed piece cites the work of the Cruickston Park Farm Advisory Committee and the University's search for partnerships as evidence of sincere attempts to find uses for the property. In 1991, however, before the advisory committee was even constituted, B of G declared Cruickston surplus to the University's needs and transferred it to the Real Estate Division, which promptly began a search for buyers of the manor. In 1992, disregarding the advisory committee's urgent advice, the University administration and B of G permitted the manor's contents (including family portraits and historical furnishings) to be dispersed. Small wonder that the search for partnerships came to nothing: what the University had to offer after 1992 was an empty, ill-maintained house on a property for which it had no plans beyond vague thoughts of sale, real estate development and gravel extraction.

I can accept that selling Cruickston is now, given our difficult financial situation, in Guelph's best interests. But I believe it is incumbent on the University to summon up a renewed sense of its responsibility as a public institution and ensure that Cruickston remains in public hands. The Nature Conservancy (Ontario) and City of Cambridge have expressed interest in the property. The University must ensure that they become its future — and permanent — owners.

Prof. Michael Keefer

Literatures and Performance Studies in English

GUELPH SCIENTIST ANNOUNCES MAJOR BREAKTHROUGH!

For the past 28 years, I have studied science and worked as a scientist. Underlying all my specific studies into the causes of human and animal diseases has been a quest to discover what good-quality science actually is.

I knew that toxicologists fed high doses of suspected poisons and modified foods and the like to rats, then drew conclusions about their effects at low doses in people. I knew that evolutionary biologists found artifacts and organisms and looked at strands of DNA and made up stories that appeared to account for all (or as many as possible) of the things they saw. I also knew that epidemiologists like me went out and measured things in populations and used sophisticated statistics to make earth-shaking discoveries such as which things we should avoid (dirty water and smoke) or seek out (leafy green vegetables) and which things were irrelevant (the length of your nose). I could understand the logic of these things. Like democracy, not great, but the best we have.

But I was still missing something. I know I'm slow to learn, but I've had a hard time seeing what tied these sciences together. What made for good-quality science? I knew that peer review was important. But who were my peers? Could a soil scientist be a peer for a social scientist? Was an ecologist as good a scientist as a physicist? Recently, thanks to a couple of ground-breaking scientific announcements, I've had a major breakthrough in my understanding of many of these issues.

First, I saw an article in *@Guelph* saying that Monarch butterflies are alive and well, and that "biotechnology" is not harming them! This amazing announcement was apparently based on a partially completed study that involved studying how far pollen from genetically modified corn travels and comparing the estimated amounts found on leaves with doses expected to harm butterfly larvae. Not a bad study, and it answers some important questions, but as far as I could tell, no one actually looked at the population dynamics of Monarch butterflies, their flight and resting patterns in relation to the major corn-producing areas of North America, or the most important causes of death in these beautiful creatures. So what I learned from this was:

- 1) You don't need to have your work reviewed by scientific peers before you announce your results.
- 2) You don't even actually have to complete a study to announce the results.

And better yet:

- 3) The results you announce don't actually have to be based on the research you did.

While I was mulling over the new freedom this gave me as a scientist, I was confronted with yet another amazing scientific announcement. Genetically modified foods are safe! Wow. Public fears about GMOs, it turns out, are just a phase people are going through, similar to phases people went through when confronted with other new technologies such as cars, nuclear bombs and microwaves. It really made me think. When cars first came along, I bet there were some wacko people who suggested that one day cars would be an important cause of death and dismemberment worldwide, that cities and roads would be built to accommodate cars rather than people, that this would result in the loss of some of our most valuable farmland, and that cars would be a major contributor to global warming and climate destabilization, resulting in an increase in extreme weather events such as droughts, rainstorms and hurricanes. What a crazy person that would have been! Like the nutcase who once suggested that spongiform encephalopathies — things like scrapie in sheep and Creutzfeldt-Jakob Disease in people — might cross species barriers and that therefore recycling sheep into cattle feed might not be a good idea. Or the irrational fanatic who suggested that it might be a bad thing if farmers were dependent on private companies for their sources of seeds in a rapidly changing global environment.

Obviously, my fears about these things meant I was going through a phase.

But whom would I turn to for wisdom to help me become an adult about this? To put my stupid fears to rest?

I also learned about this from the GMO announcement. People who study the environment are environmentalists, and people who study genes are scientists. This is an important distinction. They didn't say anything about epidemiologists, but I know there are genetic epidemiologists, so maybe I'm OK — although because I don't study the world under completely controlled and unrealistic conditions, I am definitely suspect.

In any case, all these insights made me rethink many of my old biases. Many of the fears I had, I realized, were based on ecological and social studies in the real world, rather than on good hard-nosed experiments. I used to think, for instance, that DDT might be a bad thing. I knew that volunteers were actually fed DDT in the 1950s and suffered no ill effects. I knew that DDT had helped wipe out malaria in some parts of the world. How could I have been so stupid as to think DDT might not be all good? It's because I thought that ecologists and people who study the environment were also classified as scientists. I now know this is wrong. I should have discounted that information.

Listen, folks. The butterflies are OK. GMOs are completely safe. BST is improving our physical, social and mental well-being. And mad cow disease will never infect people. Trust me. I'm a scientist.

Prof. David Waltner-Toews
Population Medicine

* * *

@Guelph welcomes letters to the editor. They should be signed by the author and submitted electronically whenever possible. A maximum length of 500 words is suggested. *@Guelph* reserves the right to edit letters for length, style and clarity. Submit letters to Barbara Chance at bchance@exec.admin.uoguelph.ca.

Exhibit of Master Drawings Opens March 16

AN EXHIBIT OF facsimile reproductions of about 50 master drawings from the Albertina Museum in Vienna will open next month in the U of G Library's Archives and Special Collections.

The exhibit — including reproductions of works by such European masters as Rembrandt, Albrecht Dürer, Michelangelo, Gustav Klimt and Egon Schiele — will open with a public lecture on the Albertina Collection of Graphic Art, to be given by Austrian art historian Sybille-Karin Moser, a visiting professor in the School of Fine Art and Music.

The lecture and a reception to be attended by Austria's recently appointed ambassador to Canada, Wendelin Ettmayer, will take place March 16 at 5 p.m. at the Macdonald Stewart Art Centre.

A faculty member at the University of Innsbruck, Moser is an expert in German art, particularly from the period 1470 to 1530, and 19th-century landscape painting. Since arriving at Guelph in September, she has taught two art history courses and is organizing the Albertina exhibit.

Moser's visit resulted from discussions held in 1997 between president Mordechai Rozanski and Austrian university officials interested in Canadian university administration. Further discussions involved Alois Sablatnjik, who until last year was the Austrian consul.

Fine art professor Chandler Kirwin says the University is fortunate to have Moser visit. "We're grateful to the Austrian embassy and the nation to have provided the funds that make such exchanges possible," he says. "Our students have benefited, and the faculty have had a great uplift of morale."

The Art Gallery of Ontario in Toronto is currently showing a different exhibition of 45 masterworks from the Albertina.

Viewing hours for the Guelph exhibition are 8:30 a.m. to 4:45 p.m. Monday to Friday. The show continues until the end of April.

@Guelph Schedule

Publication Date	Copy Deadline
March 1	Feb. 21
March 15	March 6
March 29	March 20
April 12	April 3
April 26	April 14
May 10	May 1
May 24	May 15
June 7	May 29
June 21	June 12

A HEALTHY APPROACH TO HERBALS

"We can all help by informing our MPs that we insist on regulations for product labelling and enforcement of appropriate legislation"

BY JULIE CONQUER

A RECENT *TORONTO STAR* article titled "Blind Trust: Herbal Cures" provided a valuable service by warning buyers about the possible problems in using herbal remedies. Generally, however, the article was extremely negative. The writer viewed the situation as a problem likely never to be rectified instead of as an opportunity to improve Canada's herbal medicine industry to one that might act as a world standard.

Although herbal remedies have been used for thousands of years, there is little information about their safety or effectiveness. What information is available is generally limited to testimonials or non-placebo-controlled trials. There is even less information on the possible interactions of these remedies with other prescription medications that a patient may be taking. Often, a primary caregiver is unaware that a patient is using alternative health care and thus cannot explain a lack of efficacy of prescribed medications and/or side effects of prescription medication use or withdrawal.

Many individuals and groups are trying to rectify this situation. The newly opened Office of Natural Health Products (ONHP) within Health Canada is intended to ensure that all natural health products, including herbal remedies, meet widely accepted standards of evidence for safety, efficacy and quality. For most herbal remedies, such standards do not yet exist. The new agency also plans to develop quality standards for measuring active ingredients in herbal compounds. This could take years because it may be necessary to develop new methods of analysing specific herbal chemicals to create these standards.

The ONHP is also involved in the regulation of product labelling and warnings. And the agency intends to decide which standards are needed to support efficacy claims. Drug standards

are currently the only standards available, but they are impractical for an industry that has lower profits than the drug industry and whose products already have a long history of demonstrated use.

A second group that is trying to improve the quality of herbal products is the Natural Health Product Technology Cluster, a new business cluster being formed by U of G's Human Nutraceutical Research Unit, PureSource Natural Products, Herbworks and Walnut Hill Farm. The goal of the cluster is to increase the quality of natural health products in Ontario by enabling the players to share ideas and technology. The hope is that growers will learn more about growing individual herbs and that manufacturers will discuss product labelling, quality and efficacy. A third group, the Natural Health Products Manufacturers of Canada, aims to improve the quality of natural health products currently sold in Canada, and to promote the public policy interests and strengths of Canadian manufactur-

ers and distributors. It appears that these and other groups are interested in working toward a common goal: improving the quality of natural health products sold in Canada. With the industry working together, substandard growers and manufacturers will be "weeded out" (pun intended). None of this, however, will take place without the work of individual Canadians. We can all help by informing our MPs that we insist on regulations for product labelling and enforcement of appropriate legislation. We need to demand information in order to distinguish among various claims for proof of efficacy (e.g., testimonials versus clinical trials), and we need to support companies that contribute to research, education and better natural health products. In short, we need to become informed consumers.

What is the University of Guelph's role? Individual professors, along with their teams of bright, young graduate students, have a vested interest in research and education pertaining to natural health products. Here at Guelph, the Human Nutraceutical Research Unit helps industry with human clinical trials to determine the efficacy of herbal remedies, nutraceuticals and related products. The Natural Health Product Technology Cluster mentioned earlier will bring together businesses to improve product quality. Finally, the Guelph Centre for Functional Foods is world-renowned for its analysis of food and herbal ingredients.

Through these and other efforts, U of G is contributing to the positive growth of the natural health products industry. We intend that future newspaper articles will be ones of praise and support for bona fide herbals and proven low-cost health care.

Prof. Julie Conquer is director of U of G's Human Nutraceutical Research Unit and an adjunct professor in the Department of Human Biology and Nutritional Sciences.



Parasites Threaten Ontario Crop Pollination

Researcher uses integrated pest management to control migratory mites

AS HONEYBEE colonies slumber through the winter, two potentially devastating parasitic mites are threatening their survival — and the future of Ontario agriculture.

The problem is actually two parasites — the tracheal and varroa mites — that have migrated from the United States and are making a new home in Ontario beehives. These mites have the potential to devastate the province's bee population, causing not only a shortage of honey but also major problems for fruit and vegetable producers who rely on bees to pollinate their crops. It's estimated that honeybees account for 80 per cent of all pollination and are responsible for ensuring approximately one-third of the food supply.

But a research program at U of G is stemming the potential devastation with an integrated program that uses genetics and traditional pest-control methods. Led by Medhat Nasr, a technology transfer specialist for the Ontario Beekeepers Association based at U of G, the program achieved an 80-per-cent drop in mortality rates in bees infected with mites and increased the production of queen bees — which are crucial for commercial beekeeping — from 2,500 in 1990 to about 15,000 this year.

"Bees are mainly used for crop pollination in Ontario, not for honey production," says Nasr. "If these parasitic mites take over, we'll see a drastic decline in crop yields over the next few years."

Varroa mites infest bees at an immature stage in their development, leading them to grow into adults with deformed wings, low weight and a greatly reduced lifespan. Equally devastating is the tracheal mite, which lives inside the bee's trachea (breathing tube). Once inside, tracheal mites breed and reproduce, filling the bee's trachea with their offspring and inhibiting breathing capacity. If an infected bee doesn't suffocate, its ability to fly long distances to pollinate crops is hindered.

Nasr is using integrated pest-management (IPM) techniques to control the mites. Rather than relying solely on chemicals for pest control, IPM integrates other methods such as breeding and special management practices to keep pest

populations at bay.

Recently, Nasr successfully bred bees that are attractive to the tracheal mites for a shorter span of their life, decreasing the opportunity for mites to infect young bees.

Nasr has also studied the effectiveness of formic acid as a means of repelling mites. Formic acid is a natural product produced by ants and is also found in honey. Nasr found formic acid to be 90- to 95-per-cent effective against both tracheal and varroa mites, and it leaves no residue in the honey or wax.

Part of Nasr's mite-control program involves alternating the use of Apistan — a chemical currently used to control mite infestations — with formic acid. Generally, Apistan is applied to hives twice a year, but by al-

ternating it with formic acid, beekeepers need to apply it only once. This reduces chemical use and delays the emergence of Apistan-resistant mites, which Nasr says have already emerged in the States.

"IPM doesn't lead to the complete eradication of the mites," he says. "But it does reduce the likelihood of beekeepers becoming over-reliant on a pesticide. It's more effective in the long run."

This work is funded by Agriculture and Agri-Food Canada through the CanAdapt program (administered by the Agricultural Adaptation Council), the Ontario Ministry of Agriculture, Food and Rural Affairs, and the Beekeepers of Ontario.

BY LAURA LEVAC
OFFICE OF RESEARCH

THE CHICKEN AND THE EGG

Curiosity and science go hand in hand for OAC geneticist

BY ALEXANDER WOOLEY

Prof. Ann Gibbins, recently reappointed chair of the Department of Animal and Poultry Science, embodies the notion of curiosity with a capital C.

She grew up wanting to be an archeologist, but in those days, it seemed like something you'd do as a hobby, not as a career. It's no coincidence, however, that two of her three sons (and a daughter-in-law) are archeologists themselves. "When the family gets together, we have mini-lectures and slide shows about everyone's latest projects and travels," she says. "It's wonderful."

Last year, her eldest son, David, a marine archeologist, took her on a strenuous hike into the Welsh mountains to mark her 60th birthday. "It was a freezing February day with snow flurries, and I was the oldest person at a peak I'd first visited over 45 years ago. But as we strode out, David gave me a long and fascinating account of his latest book, *The Periplus of the Erythrae* — based on the journey of an ancient trader in the Red Sea — and the day sped by. It was the best birthday present."

After archeology, Gibbins pondered a career in mathematics. "My earliest memories of my father were of working with him on mathematical puzzles, writing all around the borders of newspapers. My senior grammar school years were devoted largely to mathematics, which I loved, but Britain in the 1950s offered little for a female maths grad except teaching — and I wanted to do research."

So she turned to biochemistry, which she studied at the University of Birmingham. She graduated with a first-class honours degree — and a husband. Norman Gibbins was a biochemistry student in the same department and is now a faculty member in Guelph's Department of Microbiology.

Ann Gibbins loved the challenging, dynamic aspect of biochemistry and the emerging information about molecular genetics. The structure of DNA had only recently been elucidated, and she read a review of the newly discovered messenger RNA molecules when she was in hospital after the birth of her first son. "I was hooked," she says.

Because of family responsibilities and moves to various parts of the world, Gibbins didn't obtain her doctorate in genetics from Guelph until age 40, having obtained a master's degree in microbiology along the way.

"Everything came together wonderfully," she says. "I began my post-doctoral position in OVC just at the time genetic engineering technology was launched, and I seemed to have the right mixture of skills to join in. I honestly did all of this background education because I wanted to learn something new every day. It sounds trite, but it's true. No one was more surprised than I that I've ended up where I am today, because I never had any particular ambition for career advancement."

Where Gibbins is today is chair of one of the largest departments at U of G, a member of Senate and Board of Governors, and the Canadian (and North American) representative to NATO's Life Sciences and Technology Committee. The four-year NATO appointment involves three visits a year to Brussels or another NATO country capital. She attended the first meeting in Brussels in January and says she experienced the intense pleasure of spending several days in often passionate debate with 15 other scientists, each from a different NATO country or affiliate.

Gibbins likes the idea that the NATO science program was developed in a spirit of international co-operation by another Canadian and a former prime minister, the late Lester Pearson. With the close of the Cold War, the science panel supports collaborative programs between NATO members and former Eastern bloc countries, with the aim of advancing peace through the appropriate use of science. "To be a member of this group is a privilege," she says, "and it will lead to lasting friendships for me throughout Europe."

Those of us with just a pedestrian sense of curiosity are still puzzled by which came first, the chicken or the egg. For Gibbins, the point is moot. For 20 years, she has been intrigued



by the possibility of deliberately engineering changes in the genetic makeup of the chicken so that the hen can deposit useful products in the egg. These changes are made to the chick embryo and are extremely difficult to achieve because the embryo develops in its own little fortress — the hard-shelled egg. The strategy for accessing the embryo's genetic material developed by Gibbins and former colleagues Rob Etches and Jim Pettit is now used in research laboratories around the world.

Gibbins's main interest in this program has been to bring about useful and efficient gene engineering, and all of her group's work nowadays is devoted to altering the chicken lysozyme gene. Lysozyme is a natural antibiotic that exists in the egg to protect the growing embryo against bacteria. In Asia and Europe, lysozyme is highly valued for its health benefits and for its use in food preservation — on salads and refrigerated meats and seafood, and in wine and cheese. Canada already produces about a fifth of the world's supply of natural lysozyme extracted from egg white, and Gibbins's goal is to produce variations of the lysozyme gene that will code for antibiotics with greater stability and range of effectiveness against pathogens than the natural lysozymes. These modified lysozymes will be produced in transgenic chickens containing the engineered genes. Because the more effective antibiotics will be deposited in the egg, the novel product can be easily.

In demand around the world for her knowledge of transgenic systems, particularly transgenic poultry, Gibbins is quick to credit her success to her graduate students over the years. "I have been blessed with excellent graduate students, many of whom have ended up being very important to me as close friends for life. There is little I enjoy more than meeting with one of my group and grappling successfully with a problem that has come up in the lab. It wipes away all the other irritating things that can happen in the day."

Gibbins believes that she and her team of graduate students and a research associate are at an exciting stage of their work. "Before I retire, I think that we shall have achieved what we've been working towards for a long time."

OAC dean Rob McLaughlin says Gibbins's attitude is a key to her success. "She's not just an internationally recognized scholar — a global guru on the avian genome. She brings as much enthusiasm and interest when she gives a talk to a group of high school students as she does to a group of leading scientists at an international conference."

Gibbins doesn't court controversy or the limelight, but she doesn't shy away from it either. Biotechnology is her area of research, and it also makes for sensational headlines these days. She believes that one enormous benefit university researchers gain by also being teachers is that the classroom keeps them in tune with the issues beyond their laboratories.

"Teaching involves debate, and debate results in these issues being kept constantly at the forefront of our thought processes. This is why it's so useful to marry research and teaching as we do here at Guelph, especially with emerging technologies such as genetic engineering."

Gibbins has served on review panels for the Canada Foundation for Innovation (CFI), the Natural Sciences and Engineering Research Council and Agriculture and Agri-Food Canada, and has held several international review assignments. Internationally recognized for her contributions in the field, she has been asked to give an address on the consequences of agricultural biotechnology to the International Conference of Women Engineers and Scientists in 2002.

"I'm glad I have two years to prepare, to develop my ideas carefully," she says. "I want to strike exactly the right balance, and I expect this will be one of the most difficult talks I shall ever have to give."

Gibbins doesn't see herself as a crusader on behalf of women and until now has eschewed being held up as such. "I find it difficult to be seen as a role model because there is no single or ideal way to handle one's career and private life — and my way of handling it has certainly been odd. I like to encourage people — female or male — and help stu-

dents who are experiencing moments of self-doubt, but I am uncomfortable if my own path to where I am today is seen as a special formula. But as I get older, I am getting more and more concerned about the likelihood of women being absorbed into the workforce in an appropriate way. At Guelph, we have an excellent atmosphere in which professional women can work, which isn't necessarily the case at other organizations. I'm becoming more impatient about the issue of obstacles to women. What will the future offer for my two granddaughters, I wonder?"

Gibbins reckons that the remaining four years of her career will fly by. She finds her department an exciting and challenging place. "In the past few years, we have raised \$2.5 million from various agencies to fund tenure-track faculty bridging positions. Since May 1998, we have added five new faculty members, with two more expected in the next few months."

Major renovations in the department are under way with the construction of the University's Genome Manipulation Laboratory complex, made possible by funds from CFI and other partners and collaboration across campus. The department is also developing a strong focus in mathematical modelling of animal production systems, as well as participating in intense lobbying for provincial and federal investment in animal genomics at Guelph and elsewhere.

Curiosity and science go hand in hand, says Gibbins. "I became a scientist because there are all these intriguing puzzles that need to be solved."

An irrelevant thought occurs to this writer: "Do you read mystery novels?" "Yes, I love them," she laughs. "In fact, I plan to try to write one when I retire." She'd also like to revive her childhood love of mathematics.

That isn't all. A few years ago, Gibbins and her husband visited the Caribbean island of Saba, which is only accessible by small plane. At takeoff, the plane launched over the sea only a few metres over the waves. "I had one of the biggest adrenalin rushes of my life," she says. "I thought: 'Yes, this is something I should have learned to do.'" When she told her 87-year-old mother about this, Gibbins was intrigued to learn that her mother had subscribed to *Flight* magazine through the 1930s and had always wanted to be a pilot. "So I guess it's in the genes."

Out of curiosity, what has and still does matter most in Gibbins's life? "Family, of course. Even though our family is geographically spread out over thousands of miles, it's very close and supportive. For years, my husband and I worked hard to give our sons an interesting upbringing, never realizing how much more they and their partners and children would give us in return. What more could we want?"

Malaysia to Host Course in Mangrove Forests

Twenty students will spend three weeks studying flora and fauna in mangrove forests

"I'VE BEEN DREAMING since I was a child about going to a tropical far-off land and studying animals, and now I have the opportunity," says fourth-year zoology student Holly Kanold, who will spend three weeks this spring studying the flora and fauna of mangrove forests in Malaysia as part of a new Guelph field course.

Kanold and 19 other students will take part in the inaugural session of "Biotic Diversity and Ecology of Mangrove Forest," an interdisciplinary field course that brings together zoology and botany faculty and students from Guelph and from the Institute of Biological Sciences at the University of Malaya.

"If you want to know about mangroves, Malaysia is the place to go," says course organizer Prof. Patrick Woo, Zoology.

Malaysia's mangroves contain more kinds of plants and animals than those in tropical Australia, the Red Sea, tropical Africa and the Americas, including Florida. Found where fresh water meets the ocean, mangrove forests consist of woody plants in estuaries and sheltered shores throughout the tropics and subtropics.

These plants survive regular inundation by saltwater through various adaptations, including "breathing" roots and above-ground

roots. Typical animal species include monitor lizards, estuarine crocodiles, crabs, fish and prawns.

The course will be offered in three locations — the Institute of Biological Sciences in Kuala Lumpur, the 201-hectare Kuala Selangor Nature Park run by the Malaysian Nature Society and the Matang Mangrove Forest Reserve, which is managed by the federal government for timber, aquaculture and conservation.

Considered the best-managed mangrove forest in the world, the Matang reserve is also the largest one (more than 40,000 hectares) in peninsular Malaysia. It has been managed on a sustainable basis since the early 1900s, beginning under British colonial rule.

The idea for a field course in mangrove forests grew from Woo's long-standing research and teaching ties with institutions in Southeast Asia, including Malaysia and neighbouring Singapore. Woo, a respected parasitologist, will teach the invertebrate zoology component of the course. Fellow zoologist Prof. Bill Beamish will teach fish and water quality, and Prof. Usher Posluszny, Botany, will teach the plant module.

Led by the three U of G professors and six Malaysian faculty members, students from both universities will attend lectures and discussion

groups, identify organisms, analyse data and present group reports. They will also conduct a research project on an aspect of mangrove forest biodiversity.

As with other senior field courses offered by the College of Biological Science — including treks to Canada's Arctic, Australia and Eastern Canada — the course will be offered every two years. In a unique twist, U of G students will pair up with Malaysian counterparts on a research project. Those collaborations began in January and are continuing by e-mail as students design their research project to be completed abroad.

"To me, that's a very important component of their education, their training," says Woo. "It's a bold approach."

Beamish says Woo's idea to have the students work in pairs — one from each country — should encourage the exchange of cultural and biological information and ideas. "Our students are in for the thrill of a lifetime," he says.

Along with a Malaysian professor, Woo is currently co-editing his fourth book on fish diseases. He has worked in Africa, South and Central America, Europe and, particularly during the past decade, Southeast Asia. His initial discussions in Malaysia were partly funded by a grant

from the Canadian International Development Agency.

Beamish has studied fish in blackwater peat swamps of central Malaysia and is collaborating with Burapha University in Thailand on investigations of freshwater fish and environmental quality.

Mangroves and Malaysia will be new ground for Posluszny, who normally studies the development of mostly freshwater plants. "I think it's great," he says of the new course. "I think it's essential because the greatest diversity of plants occurs in the tropics."

Besides enabling students to learn about mangrove forests and how to conduct a field research project, the course is intended to foster self-directed learning and initiate further scientific and cultural interactions. Woo envisions Malaysian students eventually visiting Guelph in turn and anticipates that the project will also lead to further research collaborations between U of G and Malaysian scientists.

"I was incredibly excited to have been accepted into this course," says Kanold. Having worked in veterinary clinics and at Guelph's Kortright Waterfowl Park, she hopes to "find out what field work is really like. I'm excited to meet our Malaysian counterparts, to learn about another culture. I'm looking forward to

spending some time that far away from home and maybe learning a bit more about myself."

Founded in the early 1900s, the University of Malaya has about 2,000 faculty and 15,000 undergraduates and is the country's premier research-intensive university.

For more information, visit the Web site www.CBS.uoguelph.ca/mangrove.

BY ANDREW VOWLES

APPOINTMENTS

France-Isabelle Auzanneau of Don Mills will join the Department of Chemistry and Biochemistry as assistant professor June 1, 2000.

William Deen of Ridgeway was appointed assistant professor in the Department of Plant Agriculture Jan. 3.

Prof. **Jana Janakiram** has been appointed associate professor in the College Faculty of Environmental Design and Rural Development, effective July 1, 1999.

Prof. **Al Lauzon** has been appointed associate professor in the College Faculty of Environmental Design and Rural Development, effective July 1, 1999.

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Information on University of Guelph Pension Plans

Editor's note: The following was submitted for publication in @Guelph by Nancy Sullivan, vice-president (finance and administration).

IN A RECENTLY distributed issue of the U of G Faculty Association's *News and Views*, Prof. John Benson, Economics, raised a number of pension-related matters. Because his letter has engendered inquiries from members of the University community, who are members of the pension plans, about their individual pension benefits, I have decided to provide a response to the issues raised in that letter. To reach as many individual plan members as possible, I have chosen to do this through @Guelph.

It is important to understand that the University's pension plans are defined benefit plans and, as such, guarantee a certain dollar amount of pension income at retirement. The amount of this pension is defined by a formula set out in the plans based on the members' earnings and length of participation. This pension benefit must be met by the University as the underwriter or final guarantor of this benefit, and that obligation is not diminished nor affected by any reduction in employer contributions.

It is important to note that the employer contribution savings (the so-called pension contribution holiday) that were used to help meet expenditure obligations in the operating budget did not involve withdrawing funds from the pension plans. This would be in violation of the pension laws of Ontario. Furthermore, the assets of the pension plans are not held by the University but by an institutional trustee, Royal Trust. With this as context, I wish to respond to the key points raised by

Prof. Benson to ensure that plan members and retirees have the full facts.

Plan Text Issues

Prof. Benson, on behalf of the UGFA, has been discussing four issues related to pension language with the University administration in an agreed-upon attempt to determine whether there are possible resolutions to these issues. I agree with his assessment that we appear to have made significant progress on three of the four issues — a fairly noteworthy accomplishment given the complexity of the issues. The process for any proposed amendments would be for the administration to recommend amending language to the Pensions and Benefits Committee of Board of Governors, for its consideration and a recommendation to the board.

The administration would, of course, consult with the Advisory Committee on Pensions and Benefits, which is composed exclusively of representatives of employee groups and retirees, about any proposed pension text changes that affect the pension plans before initiating the approval process.

The fourth point involves a challenge to the University's contention that it has a legal right to take an employer contribution holiday. As noted below, the University has exercised this right through consultation with employee groups.

Employer Contribution Holiday

Prof. Benson suggests that the University refused to contribute to the professional pension plan during the social contract period (1993 to 1996). The reality is that the "local social contract agreement," arrived at after prolonged negotiations with all employee groups, including the UGFA, clearly provided for the Uni-

versity to take a full pension contribution holiday as a way of finding a portion of the budget savings required to deal with the devastating cuts to the University's operating budget to avoid involuntary measures.

Subsequently, for the period 1997 to 2001, the compensation agreements ratified by the University and UGFA have provided for up to a full employer contribution holiday. In any event, for the past two years, the University has been precluded from contributing to all three plans because of Revenue Canada regulations that limit the amount of surplus in the plans. This is an indication of the financial health of the plans.

Like the social contract period, these employer contribution holidays have been one-time solutions in our operating budget to fund permanent salary increases awarded to faculty and librarians, including the payment of deferred TAPSI, as well as increases awarded to all other employee groups. It is necessary to emphasize that a salary increase is permanent and the effect on the budget compounds, i.e., the employee's higher salary is the starting point on which any negotiated increases are calculated. This is why each year in the operating budget, a way must be found to cover past increases as well as future increases and to cover the ever-increasing cost of our package of group benefits. The contribution holidays are one-time and leave a "structural deficit" that must be met with base solutions.

Absent the pension contribution holiday, the University would have had to identify increased revenue or expenditure reductions in the neighbourhood of \$6 million from the operating budget in the current (1999/2000) fiscal year. In reality, I

regret to say, this could only come from even greater increases in enrolment or tuition fees or through expenditure reductions in our largest expenditure area — faculty and staff compensation.

Supplementary Pension Arrangements

During the last round of negotiations, the University agreed to meet with the UGFA to discuss its interest in a supplementary pension arrangement to enhance the pension income for faculty members and librarians whose current salaries exceed \$100,000. The administration made it clear during these negotiations that such an arrangement could not legally be funded from the pension plans. The cost of any pension benefit supplementary to the guarantee in our defined benefit plan would be another expenditure item in the operating budget and would have to be considered in the light of the total compensation for faculty and librarians.

Let me add that improvements to the University's pension plans since 1994 have been significant. A total of \$57.4 million in pension benefit improvements was approved by B of G during this period. For retirees, this has resulted in a number of inflation adjustment improvements that essentially provided full ad hoc inflation protection up to 1998 for older retirees who receive a University pension and at least CPI minus two per cent for more recent retirees. These adjustments were over and above the annual inflation adjustment committed under our pension plans. Some retirees have also enjoyed increases resulting from the enhanced value of certain joint and survivor options.

For both retirees and active employees, B of G approved permanent inflation protection changes from

CPI minus 2.5 per cent to CPI minus two per cent.

For active employees, the board approved a permanent "rule of 85," a permanent reduction in the actuarial penalty for early retirement from six per cent to three per cent a year, an improvement in the benefit formula from 1.4 per cent and two per cent to 1.5 per cent and two per cent, and a change from best average salary over five consecutive years to three.

Note that as part of the \$57.4 million in improvements, in May 1999, enhancements totalling \$18.8 million were presented to the Pensions and Benefits Committee and to B of G, with an understanding by faculty, staff and retiree representatives that the University would require an employer contribution holiday as part of our one-time solutions to our ongoing budget challenges.

Our pension plans are well managed and very competitive. That some faculty who have encountered a Revenue Canada-imposed limit on pension benefits might wish to discuss other options is understandable. I would also note that Prof. Benson's pension calculations neglect to mention there are other government benefits available to retirees, including the Canada Pension Plan, which is in addition to the University pension.

As a final point, the University has also agreed that the issue of pension contribution holidays for both the employer and employees will be revisited in the next round of faculty and librarian salary and benefit negotiations in winter 2001. Any such considerations would, of course, also be discussed during negotiations with other employee groups at the University.

I trust this clarifies the pension benefits available to plan members and retirees.

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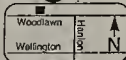
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Agribusiness Course Marks Quarter-Century at U of G

One-time special offering finds a long-term niche

TWENTY-FIVE YEARS AGO, Prof. Tom Funk, then new to Guelph's Department of Agricultural Economics and Business, came up with the idea of creating a three-day intensive course in the basic elements of marketing for agribusiness managers.

"I thought it would be interesting, so I decided to develop the course 'Agribusiness Marketing Management' with the support of Virginia Gray and her team in Continuing Education and thought we might offer it once," says Funk, a specialist in agribusiness marketing and a consultant to leading agribusiness firms. "I didn't know it would be so well received or go on for so long."

That one-time special offering turned into a regular course that he has now taught for 25 years. An anniversary celebration was held Jan. 21 on the last day of this year's course.

More than 1,000 agribusiness managers in Canada, the United States, Europe and South America have participated in the course. It has also been offered at Purdue University's Centre for Agricultural Business, the Co-operative College in Saskatoon and the University of Calgary.

The course, which is capped at 30 students, sells out nearly every time it is offered and is one of the most successful continuing education courses offered through the Office of Open Learning.

Since 1980, Funk, who is also director of U of G's MBA in agriculture program, has team taught the course with his wife, Jane, also a faculty member in the Department of



Celebrating the 25th anniversary of the course "Agribusiness Marketing Management" last month are, from left, Prof. Jane Funk, Prof. Tom Funk and Virginia Gray, director of the Office of Open Learning.

PHOTO BY MARTIN SCHWALBE

Agricultural Economics and Business.

In addition to the Level 1 program, U of G developed a Level 2 course to enable participants to explore strategic marketing in greater

depth. The courses are geared to field marketers, sales representatives, advertising managers, account executives, independent dealers, farm supply distributors, agrologists and marketing managers.

SENATE REPORT

Continued from page 1

clude meeting with city officials and developers to encourage construction of more apartment units or houses that include apartment accommodation, looking at converting some city housing spaces on a one-time basis, and asking members of the University and the community to consider taking in students or renovating their accommodations to make space available.

Whiteside said student support staff are talking with students currently in residence to let them know in advance how the housing situation is shaping up for next fall. In addition, a Web site has been established to provide information on available housing for students coming from out of town.

She also reported that plans for a new student residence, slated for completion in fall 2001, are well under way.

In response to a question from a student senator about a possible merger of the College of Biological Science and the College of Physical Science and Engineering Science, Campbell said he and the president have invited the colleges to consider their futures, including the possi-

bility of a merger. This is an opportune time to consider these issues, he said, because CPES dean Bob McCrindle retires this summer and CBS dean Bob Sheath has decided not to seek a second term and will return to teaching and research. The provost said he expects the two colleges to consult and debate widely on their future in the coming months and to make a decision by the end of the summer. Both he and Rozanski stressed that this is not a budgetary issue.

Megan Garipey, Central Student Association external commissioner and deputy chair of the Canadian Federation of Students, updated Senate on the student-led Access 2000 campaign, which is lobbying the federal government to invest \$3.7 billion from the budget surplus in post-secondary education.

She reported on events that occurred nationwide on a day of action Feb. 2, including a Toronto rally that drew 300 Guelph students, a record number for the University, she said. She noted that Guelph was the first university to declare Feb. 2 a penalty-free day for students.

Winter Library Hours

DURING THE WINTER semester, the McLaughlin Library and Veterinary Science Library are open from 8:30 a.m. to midnight Monday to Friday and 10 a.m. to midnight on weekends and holidays.

From April 8 to 19, McLaughlin only will be opened extended hours as follows: 8:30 a.m. to 1:15 a.m. Monday to Friday and 10 a.m. to 1:15 a.m. on weekends and holidays.

Throughout this period, Veteri-

nary Science will be open from 8:30 a.m. to midnight Monday to Friday and 10 a.m. to midnight weekends.

From April 20 to 29, both libraries will be open 8:30 a.m. to midnight Monday to Friday and 10 a.m. to midnight on the weekend.

On April 30, McLaughlin will be open from noon to 10 p.m., and Veterinary Science will be closed.

For reference service hours, call Ext. 3617.

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- Student Housing Services
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- GSA
- Board & Senate

DEADLINE: Feb. 18, 2000

ELECTIONS: March 6 to 9, 2000 (held in conjunction with the CSA election)

For more information, call the Board of Governors office at Ext. 6571 or Senate office at Ext. 6760.

Other Universities Interested

Continued from page 1

The Web-based training is a team effort of CCS and HR's Client Services, which supports a variety of faculty and staff development opportunities. Demand for the program will be evaluated at the end of each semester to determine whether it should continue.

Guelph is the first university in Canada to embark on a partnership with Ziff-Davis Education to offer IT training in this unique format, says Steeves. Since the launch of the pilot project, Guelph has had calls from Queen's University, Ryerson and Waterloo expressing interest in the pilot program, she says.

Ziff-Davis provides Guelph with

15 "virtual seats" in its training program, which means 15 members of the University community can access the tutorials each day. Registration is on a first-come, first-served basis. To sign up, go to the CCS Web site at www.uoguelph.ca/ccs/. Click on "Training" on the top bar and then click on "Day Pass." Enter your employee or student ID and central login account ID and password to validate yourself as a member of the University. Next, scroll down the page to find a day that best suits your schedule and click on the "Register" button. You don't have to select any particular course at this point and you can register for more than one

day at a time. On the day you've selected, you will receive a day pass for training from CCS by 10 a.m. The e-mail message will include your confidential ID and password for the Ziff-Davis LearnItOnline Web site, which will be valid until 8:30 a.m. the following day.

For a demonstration of how to register online and participate in a Web-based training course, you can sign up for a half-day workshop being offered by HR's Client Services and CCS March 23. To register, call Ext. 8648.

For more information about Web-based training, call Steeves at Ext. 3142 or Kovats at Ext. 6495.

CLASSIFIEDS

FOR SALE

Brother toner TN-300, recently purchased, used to print only 50 copies, leave message at 787-2797 or send e-mail to wfung@uoguelph.ca.

Kenmore built-in dishwasher, 10 years old, in working order, 827-9013.

Three-bedroom semi on Cole Road, finished basement with three-piece bath, large cedar deck, central air, gas, close to shopping and schools, Ext. 2101, 837-1418 or send e-mail to stu@pr.uoguelph.ca.

WANTED

German shepherd puppy or dog, good with children, Ext. 3438.

Someone to milk herd of cows on weekends, close to Guelph city limits, 822-3147.

Three-bedroom house or apartment for three quiet, non-smoking students for fall 2000 and winter 2001 semesters, Lee, Ext. 77265.

Small, dry, insulated storage space for a few pieces of furniture, Pat, Ext. 2965 or send e-mail to pslawich@tss.uoguelph.ca.

Experienced transcriber for small project involving transcription of two eight-hour videotapes, Ext. 2909.

House or apartment for full-time female student with weekend child, two dogs and kiln, parking, reasonable rent, April 15 or May 1, 763-0533 or send e-mail to camille@albedo.net.

FOR RENT

Large one-bedroom basement apartment in south-end house suitable for one person, close to campus and shopping, parking for one vehicle, available April 1, Ext. 2849 or 763-1085.

Large bedroom in home shared with two working professionals and two cats for quiet non-smoker with no pets, semi-private facilities, Willow West area, close to bus stop and mall, \$375 a month inclusive, 824-7860.

AVAILABLE

One- or two-bedroom accommodation in stone farmhouse in

Rockwood, must be willing to perform farm chores (cattle and horses) and general maintenance of land, rent and salary to be negotiated, references required, send e-mail to steph@research.uoguelph.ca.

Free one-year-old cat with calico tail and ear, sweetheart disposition, spayed, indoor cat, Michelle, 856-9941.

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ARBORETUM

A pancake breakfast kicks off Maple Syrup Days Feb. 26 from 9:30 to 11:30 a.m. at the Arboretum Centre. Cost is \$2 or \$5 for a family. Maple Syrup Days run weekends until March 26 and the week of March 13.

Learn the principles of easy and correct pruning in the home garden at a workshop led by horticulturist Henry Kock March 9 or 10 from 1 to 4 p.m. at the Arboretum. Cost is \$25. Payment and registration are required by Feb. 24. Kock also leads a workshop on establishing and managing wetland and woodland gardens in your own backyard March 16 or 23 from 9 a.m. to 4 p.m. Cost is \$32. Register by March 2 at Ext. 4110.

Theatre in the Trees presents the dinner-theatre comedy *Beyond a Joke* by Derek Benfield. Directed by John Snowdon, the play continues Saturdays until April 29. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are \$45 and are available at Ext. 4110.

ATHLETICS

The men's hockey Gryphons host Queen's Feb. 19 at 7:30 p.m. and the Royal Military College Feb. 20 at 2 p.m.

U of G hosts the CIAU swimming championship Feb. 25 to 27 and the OUA women's indoor hockey championship March 4 and 5.

CONCERTS

The Thursday noon-hour concert series continues Feb. 17 with pianist Mary Kenedi performing works by Kenins, Southan, Rea, Behrens and Horwood. The March 2 concert features Prof. Mary Cyr on viola da gamba and Sandra Mangsen on harpsichord, performing works by Marin Marais and François Couperin. The concerts are in MacKinnon 107. Admission is free, but donations are welcome.

CONFERENCE

The School of Rural Extension Studies and Agriculture and Agri-Food Canada are sponsoring the conference "Doing Business in Russia/Ukraine: Spotlight on Post-Soviet Agriculture" Feb. 24 to 26 at the College Inn. Chaired by Prof. Glen Filson, the conference will address issues of interest to agri-food exporters and investors in Russia and Ukraine, as well as Canadian government officials and North American academics interested in post-Soviet agriculture. For more information, visit the Web site www.uoguelph.ca/~fsa-conf or contact Filson at Ext. 6231 or gfilson@oac.uoguelph.ca.

LECTURES

Third Age Learning-Guelph's lecture series for retired people continues Feb. 23 with University professor

emeritus Henry Wiseman, Political Science, discussing "The United Nations in the Preservation of Peace and the Management of Conflict" at 10 a.m. and Prof. Terry Gillespie, Land Resource Science, explaining "Climate Change: Facts and Fantasy" at 2 p.m. On March 1, Wiseman continues his discussion on the UN at 10 a.m. and Prof. Barry Smit, Geography, talks about "Global Warming: Does It Matter for You and Me?" at 2 p.m. Lectures are at the Arboretum Centre.

The Raithby Memorial Lecture series presents Dagmar Waberski of the Veterinary School of Hannover in Germany Feb. 17 at 9 a.m. in OVC 1714. Her topic is "Ultrasound Diagnosis of Ovulation and Ovarian Cysts in Pigs: How Can it Improve AI Efficiency?"

NOTICES

The winter deadline for nominations for honorary degrees and University professors emeriti is Feb. 28. Honorary degrees recognize outstanding contributions in the arts, humanities and sciences or honour people outstanding in professional or public life. University professor emeritus is awarded to faculty who will continue their scholarly association with the University after retirement and whose scholarship is recognized internationally. For information, call the Senate Office at Ext. 6758.

The Stress Management and High Performance Clinic is offering a program on managing headaches for people who wish to better understand and manage stress-related tension and migraine headaches. The four-session program meets Mondays from 7:30 to 9:30 p.m. in UC 390, beginning Feb. 28. Cost is \$60 general, \$20 for U of G students. For more information, visit the Web site www.uoguelph.ca/~ksomers or leave a message at Ext. 2662.

The Central Student Association's Human Rights Office invites everyone to celebrate Pink and Black Triangle Week, which runs until Feb. 17. On Feb. 16, a discussion of "Building Community Through Diversity" runs from 6 to 9 p.m. in UC 103. Members of the University community are asked to wear denim on this day to show their support. Events on Feb. 17 include "Trans-What? A Transgender/Transsexual Workshop for Everyone" from 5 to 8 p.m. in UCC 333 and "Queer-Positive Dance Instruction: Intro to Swing and Waltz" at 8 p.m. at East Fireplace Lounge. A free dance follows at 9:30 p.m.

Classes in Buddhist-Christian meditation will be offered by members of the multi-faith campus ministry team Feb. 27 and March 5, 12 and 19 from 5 to 6:30 p.m. in UC 533. The classes are open to everyone and cost \$25. Call Rev. Lucy Reid at Ext. 2390 to register.

The Inter-American Institute for Co-operation on Agriculture is offering 20 grants this year to Canadian graduate students and researchers who wish to spend research periods of up to three months in Latin America and the Caribbean. For details, visit the Web site www.iica-can.org.

The College of Arts, in partnership with Career Services and the College of Arts Student Union, is organizing the college's first Arts and Culture Career Fair March 2. The fair will include a showcase of student talent from noon to 1 p.m. in the UC courtyard and employer booths from 1 to 3 p.m. At 5 p.m., Jean-Philippe Tabet, executive director of the Cultural Human Resources Council in Ottawa, will give a keynote address in Peter Clark Hall, to be followed by round-table sessions with regional professionals in applied arts and humanities.

READINGS

English professor Janice Kulyk Keefer is among the writers who will read from their work during an evening of Canadian fiction and poetry Feb. 18 at 7:30 p.m. in the Whippletree. Also reading are Jennifer Blair, Josh Whitehead, Suzanne Hancock, Michael Crummeys, Sky Gilbert, Priscilla Uppal and Shannon Bramer. Tickets are \$7 in advance or \$8 at the door and are available from the Counselling Unit or by calling Ext. 4301. The event is a benefit for Student-to-Student Support Services.

SEMINARS

The Department of Zoology is hosting a visiting seminar series Wednesdays at 4 p.m. in Axelrod 265A. On Feb. 16, Ladd Johnson of the University of Laval discusses "Dispersal of Exotic Species in Complex Landscapes: Mechanisms and Patterns of Geographic Spread of the Zebra Mussel." "Regulation of the *Xenopus* Oocyte Na⁺/H⁺ Exchange: Unique Aspects" is the topic of Greg Goss of the University of Calgary Feb. 23. On March 1, Troy Day of the University of Toronto explores "Spatial Sexual Selection and the Evolution of Costly Female Preferences."

The biochemistry seminar series continues Feb. 17 with Daniela Rotin of the Hospital for Sick Children discussing "Regulation of the Epithelial Na Channel by the Ubiquitin Ligase Nedd4" and March 2 with graduate student Joanna Summerscales presenting "A Random Mutagenesis Approach to the Development and Screening of Human Arylamine N-Acetyltransferase Variants." The seminars begin at noon in MacNaughton 222.

The Department of Microbiology's graduate student seminar series presents Emmanuel Egbosimba explaining the "Role of Glycosylation in Adherence of *Fibrobacter*

Succinogenes to Cellulose" Feb. 18 at noon in Food Science 128.

Next up in the Department of Economics' visiting speakers series is Keith Crocker of the University of Michigan discussing "Insurance Fraud and Optimal Claims Settlement Strategies: An Empirical Investigation of Liability Insurance Settlements" Feb. 18. On March 3, Mary Kelly of Wilfrid Laurier University considers "Optimal Loss Mitigation and Contract Design." The seminars begin at 3:30 p.m. in MacKinnon 234.

"Mass Media and Current Events: The World Trade Organization" is the focus of the "Our World" seminar series Feb. 29 at noon in UC 103.

The Axelrod Institute of Ichthyology's seminar series continues Feb. 29 with Chris Good discussing "Monitoring for Pathogens in OMNR Hatchery Fish" at 1 p.m. in Axelrod 168.

The Department of Physics presents Michael Schick of the University of Washington explaining "Self-Assembly of Biological Lipids" Feb. 29 at 4 p.m. in MacNaughton 113.

TEACHING SUPPORT

The Teaching Support Services workshop series featuring hands-on training in the use of learning technologies continues Feb. 22 with "WebCT: Hands-on," "Burning a CD-ROM Disk" Feb. 29 and "PowerPoint II: Advanced" March 3. For detailed descriptions and to register for workshops, visit the TSS Web site at www.tss.uoguelph.ca.

The TSS workshop series on "Raising the Bar: Experiential Learning at Guelph" continues March 1 with Anthony Marini of the department of education at the University of Calgary leading sessions on "Principles of Good Assessment" from 9 a.m. to noon and "Promoting Self-Assessment Skills in Students" from 1:30 to 3 p.m. For detailed descriptions and to register, visit the TSS Web site at www.tss.uoguelph.ca.

TSS runs technology clinics for instructors and teaching staff Mondays and Thursdays from 1 to 4 p.m. in Day Hall 211. You can get help with PowerPoint, digital imaging and scanning, sound and video on Mondays and with HTML-based projects and WebCT development on Thursdays. For more information or to reserve a workstation, call Pat Thompson at Ext. 2965.

COMMUNITY EVENTS

The Waterloo-Wellington Wildflower Society will meet Feb. 16 at 7:30 p.m. at the Arboretum Centre. Botany graduate student Lesley Campbell will discuss "The Biology of Rarity: A Study of Lakeside Daisy on the Bruce Peninsula."

Famous People Players will perform March 3 at the River Run Centre as part of the celebrations of the 45th anniversary of the Guelph Wellington Association for Community Living. Titled *Leave the Porch Light On*, the production is a look at the story behind the performance troupe. A 1 p.m. matinee will be followed by a post show with the cast and crew; tickets are \$8. An 8 p.m. performance will be followed by a reception; tickets are \$18 general, \$16 for seniors and \$8 for children. Tickets are available at the River Run box office, Scotiabank, ARC Industries or by calling 824-2480, Ext. 224.

"Serving Democracy/Behind the Ballot Box," an exhibition portraying the history of the Canadian electoral process, continues at the Guelph Civic Museum until March 25. The exhibit features historical election documents, political cartoons, campaign posters and a historical video. The museum is open Sunday to Friday from 1 to 5 p.m. Admission is \$3 for adults, \$2 for seniors and students and \$8 for families.

The Elora Festival Singers and the Victoria Scholars, conducted by Noel Edison and Jerzy Cichocki, present "Majesty and Mystery" Feb. 27 at 4 p.m. at St. George's Anglican Church. The program will include Charles-Marie Widor's Mass for two choirs and two organs. Guest organists are Michael Bloss and William O'Meara. Tickets are \$22 and are available at the door or by calling 846-0331.

Wellington County Museum and Archives hosts a Heritage Day Festival Feb. 20 from noon to 4 p.m., featuring live entertainment, games, a multimedia exhibit, and displays and food provided by cultural groups in the area. Admission is \$1. The museum's current exhibitions are "Whatisits and Thingamajigs" and "Cradle Talk." The museum hosts a gallery concert Feb. 27 at 2 p.m.

The Guelph ladies' slo-pitch league is accepting registrations for the 2000 ball season. Games are Monday evenings. Participants must be 27 as of April 30. For more information, call 821-6947 or 821-7119.

The Wellington Woods concert band is holding a fund-raising silent/live auction and dance March 4 at 6:30 p.m. at the Waterloo Recreation Complex. Admission is \$5. For more information, call 821-8066 or 763-2494.

The Big Sister Association of Guelph will hold its silver-anniversary auction March 2 at 7:30 p.m. at the Cutten Club. Honorary chair of this year's auction is Nancy Sullivan, U of G's vice-president (finance and administration). Tickets are \$15 and are available by calling 824-0800 or Ext. 3343.



U E L P H

VOL. 44, No. 4

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IN THIS ISSUE

5 EMPLOYMENT equity survey will provide picture of U of G workforce.

5 WHAT role does insulin resistance play in weight loss?

6 PHILOSOPHY professor explores the cancer stage of capitalism.

7 INTERNATIONAL development student headed for Greece.

8 NEW Learning Opportunities Program earns high marks.

INCLUDED in this issue of @Guelph is the Report of the Working Group on Accessibility.

Faculty to Join Expert Panel

Panelists chosen on basis of recognized expertise

PROF. RICK YADA, chair of the Department of Food Science, and Len Ritter, executive director of the Canadian Network of Toxicology Centres, have been selected to serve on a 16-member Expert Panel on the Future of Food Biotechnology.

Appointed by the Royal Society of Canada, the independent panel will advise the ministers of health, agriculture and environment and the Canadian Food Inspection Agency on issues related to new food products being developed through biotechnology. The panel will present a final report of its findings Dec. 15, 2000.

"The work of the panel underscores the importance of balancing the opportunities that the application of biotechnology presents for the entire agri-food system with the legitimate concerns of the public and regulatory officials," says Ritter.

Panelists were chosen on the basis of their widely recognized expertise in specific areas of knowledge and had to meet stringent conflict-of-interest guidelines. Yada is an expert on structure-function relations

Continued on page 10



SOLD ON MOULD

Botany professor John Kironomos is studying the role of fungi in maintaining biodiversity, a growing concern for many scientists observing the continued loss of species of plants and animals worldwide. See story on page 9.

PHOTO BY DEAN PALMER/THE SCENARIO

Summerlee Named Provost, Vice-President (Academic)

Appointment will begin July 1, 2000

THE SEARCH COMMITTEE for the position of provost and vice-president (academic) has recommended the appointment of Prof. Alastair Summerlee, associate vice-president (academic). The appointment, which was to go to Board of Governors for approval Feb. 29, will begin July 1, 2000.

"I am delighted to accept this recommendation," says president Mordechai Rozanski, chair of the search committee. "The recommendation follows an extensive search and the review of an excellent group of candidates, including men and women from diverse disciplines and from institutions across Canada and abroad. The search committee conducted a rigorous search process, thoroughly reviewing the public presentations, interview sessions and all letters and e-mails received from the University community, and was pleased to recommend Dr. Summerlee."

Summerlee, who holds a B.Sc.,



Prof. Alastair Summerlee

B.V.Sc. and PhD from the University of Bristol, joined U of G in 1988 as a professor in the Department of Biomedical Sciences. He was named associate dean of the Ontario Veterinary College in 1992, became dean of graduate studies in 1995 and served as acting associate vice-president (academic) from 1998 until he was officially appointed to the

position in 1999. He has also served as chair of the Enrolment Management Committee since 1997.

"Alastair brings experience, creativity and boundless energy to this position," says Rozanski, "and I am enthusiastic about the work we will do together in his new role. The committee and I are confident he will provide exemplary and collegial leadership. He will offer us the balance of continuity and innovation as we face the challenges of renewal and of ensuring quality and accessibility at the University of Guelph. In partnership with the provost, deans, faculty, staff and students, Alastair has demonstrated his leadership abilities and academic vision, most recently through his roles as dean of graduate studies and associate vice-president (academic)."

Prof. Steven Kruth, Clinical Studies, a member of the search committee, adds that Summerlee "has the type of attitude that makes

Continued on page 2

Province Funds Guelph, Humber/Guelph Projects

SuperBuild 'an important step' towards reinvestment

UOF G has received \$73.6 million from the provincial SuperBuild Growth Fund — \$45 million for the University's proposed new Sciences and Advanced Learning and Training (SALT) Centre and \$28.6 million for the Humber-Guelph Centre for Advanced Education and Training at Humber College in Toronto. Dianne Cunningham, minister of training, colleges and universities, made the funding announcements at press conferences Feb. 22 in Toronto and Feb. 25 at U of G.

"We applaud the launch of SuperBuild and consider it an important step in the reinvestment in the future of Ontario's students," president Mordechai Rozanski said at the Feb. 25 announcement. "The SALT Centre and the Humber-Guelph Centre will help ensure that Guelph continues to be a top-quality student-focused university committed to innovative programs, dynamic student-faculty interaction and the integration of learning and research. Today's news reflects the dedication of our faculty, staff, students and administrators to this vision of our university."

The SuperBuild Growth Fund is providing \$742 million in new capital project funding for Ontario universities to build and modernize post-secondary institutions, improve educational quality and prepare for the expected surge in student demand over the next 10 years. "SuperBuild investments will help revitalize our colleges and universities so that Ontario students receive the high-quality education they deserve," said Cunningham. "This is much more than an announcement about bricks and mortar."

Rozanski said Guelph is encouraged that, in offering this funding, the government has repeated its commitment that every willing and able student will have access to

Continued on page 3



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These new College of Biological Science alumni were among the 680 graduates to receive degrees and diplomas during U of G's winter convocation ceremonies Feb. 23 and 24. Honorary degrees were awarded to Alan Cox, director and CEO of the National Tropical Botanical Garden in Hawaii, and Jocelyne Bourgon, president of the Canadian Centre for Management Development in Ottawa.

PHOTO BY MARTIN SCHWALBE

Summerlee to Assume Post July 1

Continued from page 1

Guelph a distinctive university. He has all the tools and abilities that will ensure the job is done extremely well."

Summerlee says he is "delighted" by his appointment and "excited" about the challenges that lie ahead. "The first challenge, with the appointment of several new deans, will be to renew the VPAC team to continue its tradition of being strategic and collegial. When we have this, we will be able to face what lies ahead and continue to restore, maintain and strengthen Guelph's academic quality and its reputation as Canada's number one comprehensive university."

Summerlee adds that he has been "overwhelmed by the huge number of e-mails I have received about my appointment from faculty, staff, students and alumni. This is both incredibly encouraging and amazingly daunting. I trust I can fulfil all the expectations people have of me."

He extends thanks to current provost Iain Campbell, who plans to return to research and teaching in the Department of Physics when his term ends this summer. "I will miss his wise counsel and measured view

of everything," says Summerlee. "I also want to thank the president for his confidence in me, and I look forward to our close collaboration in the years ahead. Additional thanks go to all those who have encouraged me along the way — both when things have gone right and when they have not, and I well recognize that I have had both experiences."

Campbell lauds Summerlee's appointment, calling him "a remarka-

bly gifted" colleague. "With the changes in both the central administration and in the group of deans, his appointment will have a major stabilizing effect and will help ensure the continuance of the collegiality that I have worked to instil in the University's governance," he says.

Campbell, who begins a research leave in July, will be honoured this spring for his contributions to the University as provost.

Nominations Sought for Selection Committee

THE SENATE COMMITTEE on Bylaws and Membership is calling for nominations for membership of the selection committee for the position of associate vice-president (academic).

As stated in Faculty Policies, the selection committee is to include one dean, three tenured faculty members from different colleges, one student and one regular full-time staff member, all of whom are

elected by Senate. Members of the selection committee need not be senators. The committee will be chaired by the provost.

The Senate Committee on Bylaws and Membership will present a slate of names for approval at Senate.

The deadline for nominations is March 17 at noon. Nomination forms may be obtained from the Senate office on Level 4 of the University Centre, Ext. 6760.

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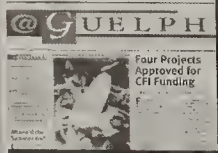
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CANDIDATES FOR DEAN OF CSAHS TO SPEAK

The search committee for the position of dean of the College of Social and Applied Human Sciences (CSAHS) has short-listed three candidates—University of Toronto economics professor Gordon Anderson; Prof. Alun Joseph, chair of U of G's Department of Geography; and McMaster University political science professor Mark Sproule-Jones. Each candidate will give a public lecture on campus, to be followed by questions and discussion. Anderson will speak March 2 at 9 a.m. in the Eccles Centre; Joseph, March 6 at 9 a.m. in Room 1714 of the OVC Learning Centre; and Sproule-Jones, March 8 at 9 a.m. in OVC 1714. The search committee invites written advice and comments by March 22. They should be submitted to provost Iain Campbell. Copies of the candidates' CVs are available in CSAHS department offices, the provost's office and the offices of the CSAHS Student Alliance, Central Student Association and Graduate Students' Association.

OLIVIERI TO SPEAK MARCH 7

Dr. Nancy Olivieri, a medical researcher with the Hospital for Sick Children in Toronto, will speak March 7 on campus. She will discuss "Corporate Sponsorship and Academia: A Prescription for Controversy" at 7 p.m. in War Memorial Hall. Olivieri drew attention to issues surrounding corporate funding when she released her research on a new drug product over the objections of the company that partially funded her research. A panel discussion featuring U of G faculty will follow Olivieri's talk. This free public event is sponsored by the Intellectual Freedom Forum. Doors open at 6:30 p.m. For more information, call Frank Le at Ext. 6742.

GUELPH POLICE HOLD PUBLIC SEMINARS ON SAFETY

Guelph Police Services is holding public seminars related to a recent series of break-ins and sexual assaults in the city. The next session will be held March 9 at 7 p.m. at Centennial CVI. A campus session is also scheduled for March 13 at 7 p.m. (location to be announced). U of G community liaison officer Robin Begin urges members of the University community to keep their doors and windows locked at all times. Anyone with any questions can call Begin at Ext. 6261.

NOMINATIONS SOUGHT FOR UGFA TEACHING AWARDS

The U of G Faculty Association is calling for nominations for its 2000 awards for teaching and academic librarianship. Nominations may be made by anyone in the University community. Nomination deadline is March 17, with support material to be received by March 31. For nomination information, call the UGFA office at Ext. 2126.

Centre to Be Cross-Disciplinary

Continued from page 1



Dianne Cunningham, Ontario minister of training, colleges and universities, and president Mordechai Rozanski confer at the minister's Feb. 25 announcement of \$45 million in SuperBuild Growth Fund support for U of G.

PHOTO BY MARTIN SCHWALBE

post-secondary education. "We are confident that the government will recognize that the next critical step to achieve this goal is increased operating support to renew and expand our faculty and staff and to enhance accessibility and affordability for students from diverse socio-economic groups," he said. "Such investment will help constrain student debt loads."

SuperBuild Growth Fund projects were chosen through a competitive process requiring institutions to demonstrate the benefits of their project against several criteria, including demonstrated merit, student demand both for the institution and for the project's programs, and the project's long-term economic benefits to the community or region.

The \$73.6 million awarded to Guelph represents the equivalent of 32 per cent of the University's total operating budget. And as one measure of the magnitude of the award, Guelph's per-student share of more than \$5,000 ranks U of G number one in SuperBuild Growth Fund support in the province.

CROSS-DISCIPLINARY CENTRE

Rozanski calls the province's decision to support the SALT Centre "a wonderful endorsement of our university. The proposal to develop the centre reflects the increasing demand by excellent students for U of G programs and our ongoing commitment to quality, innovation and accessibility. SALT is an ambitious and exciting renewal of our facilities, and although it will have a focus on science, it will truly be cross-disciplinary, leading to innovative programs in the humanities and social sciences, and will provide high-tech 'smart' classrooms, labs and a 1,000-seat lecture theatre complex for faculty, students and staff in the sciences, social sciences, humanities and applied and professional programs across campus."

SuperBuild funding will also support major renovations to the Axelrod Building, providing additional improved classroom space for all disciplines. In addition, it's expected the SALT Centre will provide the space needed to expand U of G's co-operative education and experiential

learning programs.

"The entire University benefits from this award in terms of additional classrooms, including the lecture theatre, computer labs, linked and 'smart' classrooms and modular units for learner-centred approaches," says CBS dean Bob Sheath.

Assuming U of G acquires the necessary human and financial operating resources, the SALT Centre will also enable Guelph to respond to an expected increase in demand for student places at university over the next decade, says Rozanski. It will allow U of G to phase in a projected enrolment increase of about 3,600 students over its base 1998/99 enrolment in high-demand science programs as well as in innovative programs in the social sciences and humanities, he says.

"The projected increase of 3,600 students includes approximately 1,200 to 1,300 flow-through projected enrolments," says Prof. Ken Grant, director of institutional analysis and planning. "As a result, the net incremental difference of new students is actually about 2,300 to 2,400. That number of new students, which includes a mix of undergraduate and graduate students from all academic programs, including the sciences, social sciences and humanities, is consistent with the hypothetical model being used by the planning clusters. The hypothetical model assumes the additional new students will be enrolled beginning in 2003, reaching steady state by 2008."

SALT's total capital cost of \$89.8 million includes support from other public- and private-sector partners and is tentatively scheduled to be completed by fall 2003.

FULLY INTEGRATED PROGRAM

Also tentatively scheduled for fall 2003 completion is the Humber-Guelph Centre for Advanced Education and Training at Humber College's north campus, which will house a new fully integrated, joint admissions program involving the two institutions. Building on a memorandum of understanding signed by Guelph and Humber in June 1999, the pioneering program would allow students to graduate in four years or

less with a U of G degree and a Humber diploma, and would see the creation of a number of new integrated and applied degree and diploma programs. Programs identified for early development are gerontology, early childhood education, hospitality and tourism, media and communications, wireless technology and police foundations.

The total capital project of about \$40 million includes public- and private-sector support for land, equipment, technology support and student co-op opportunities.

Rozanski and Humber College president Robert Gordon both express delight at the province's endorsement of this collaborative initiative. "The proposal to develop this joint program fits well with the Guelph and Humber tradition of balancing the theoretical and the applied and reflects our commitment to quality, innovation and accessibility," says Rozanski. Adds Gordon: "With the joint admissions process and curriculum, this is truly a third way of obtaining a post-secondary education. The SuperBuild funding permits us to move to the next stage of the governance process to realize this unique partnership between first-class institutions."

Prof. Alastair Summerlee, associate vice-president (academic), says the partnership will help Guelph meet the 40-per-cent increase in demand for post-secondary places by providing the possibility for university/college attendance. "It will also enhance opportunities for accessibility for students in the GTA who may, for a variety of reasons, prefer to study in Toronto." Ultimately, the centre will accommodate a steady-state enrolment of up to 2,000 students between 2003 and 2008.

Gordon and Rozanski say the partnership was a success from the start because of the dedication, co-operation and initiative of teams of faculty at both institutions. They also acknowledge the project leaders at both institutions—Richard Hook, vice-president (academic) at Humber; Ian Smith, Humber's associate principal, Lakeshore campus; Guelph provost Iain Campbell; Summerlee; and Prof. Donna Woolcott, assistant vice-president (academic).

PEOPLE

PSYCHOLOGIST HONOURED AS DISTINGUISHED GRADUATE

Brenda Kenyon, director of U of G's Centre for Psychological Services, has received the 1999/2000 Father Norm Choate Distinguished Graduate Award from St. Jerome's University in Waterloo. Following the award presentation Feb. 18, she spoke about her work as a psychologist and the role of individual narrative in changing lives. A 1987 graduate of St. Jerome's, Kenyon earned her MA from Guelph and PhD from Concordia University. The Choate award recognizes alumni who have made outstanding contributions to their church, community or field of endeavour.

DRAMA PROF LECTURES AT FIVE UNIVERSITIES IN FRANCE

Prof. Ric Knowles, Literatures and Performance Studies in English, did a five-city, 10-day lecture tour of France in December, at the invitation of the French Association for Canadian Studies. He spoke to faculty and students at universities in Paris, Rennes, Rouen, Toulouse and Dijon on the topic "First Nations Theatre in Contemporary Canada."

COPYRIGHT FOCUS OF TALKS

Bernard Katz, head of special collections and library development in the U of G Library, gave a presentation on copyright to the Ontario Library Association's (OLA) Super Conference 2000 in Toronto in February. He discussed new Canadian copyright regulations and how they affect educational, library and archival operations. His handout will be available on the OLA Web site. During the conference, Katz also presented a report on the work of the OLA Copyright Task Force, which he chairs, to the annual general meeting of the Ontario College and University Library Association.

DRC PROJECT LEADER ELECTED TO COUNCIL

Bo Wandschneider, Computing and Communications Services (CCS), has been elected to a four-year term on the Council of the Inter-University Consortium for Political and Social Research (ICPSR) based at the University of Michigan. ICPSR is the world's largest archive of computerized social science data, with training facilities for the study of quantitative social analysis techniques and resources for social scientists using advanced computer technologies. Wandschneider's appointment was largely based on work done in the Data Resource Centre, a project of CCS and the Library, and the international reputation it has subsequently achieved.

SOCIOLOGIST GIVES TALKS

Prof. Lynn McDonald, Sociology and Anthropology, recently spoke on "Florence Nightingale and the Origins of Public Health Care" at Dalhousie University and on "Florence Nightingale and the Christian Origins of Public Health Care" at Trinity College, University of Toronto.

CLARITY IS A MATTER FOR PROPONENTS AND OPPONENTS ALIKE

In my comments to Senate (@Guelph, Feb. 16) and in a previous letter (Feb. 9), I dealt with three issues: the academic freedom of Prof. Ann Clark and all the rest of us; a press interview with a dean; and a general matter of "clarity" that had been raised.

Letters in the Feb. 16 @Guelph from Profs. John McMurtry and John Pratschke address, inter alia, some important aspects regarding the clarity issue and its relationship to the interdisciplinarity that we strive for and must protect. My two colleagues may not be familiar with my own credentials as an interdisciplinary scholar, one of just three scientists on campus who draw their research support from the Natural Sciences and Engineering Research Council's interdisciplinary grants committee. Having had my own difficulties moving towards an interdisciplinary role, I am concerned to smooth the path for others. In retrospect, I should have given some examples to illustrate what the president and I had in our minds, and I shall now do so.

Before that, however, I must make it clear that in addressing this general issue and examples of it, I am not somehow implying or supporting allegations that Prof. Clark has done anything untoward. In fact, I think her Web page is a good example, as is her CV at the Council of Canadians Web site, of the clarity I mentioned. And she indicates that she takes the same approach at public venues. It is time to let Prof. Clark get on with her work, undistracted, and turn our attention to how the University should handle the new context in which we find ourselves as regards to communicating our research, controversial or otherwise, to a general audience.

I return to my examples. Both @Guelph correspondents take a "reductio ad absurdum" approach to

the concern about clarity. They seem to imply that we are all about to be issued with T-shirts that proclaim "paleobotanist" or "Shakespeare scholar" and that we must point to these every time we open our mouths on any topic beyond some narrow and even administratively imposed range. Of course this is not the intent!

Let us suppose that Prof. X, who might be a consumer expert, an economist or whatever, having presented certain views to a lay audience about the safety of nuclear power reactors, is asked by the press: "As an expert on nuclear energy, Prof. X, what do you think about topic Y?" All we are suggesting is the very modest step of the professor replying that he or she is coming at the issue not as a nuclear engineer but as an academic with a rightful interest in the topic.

Let us suppose that Prof. A, an expert in genetic modification and an enthusiastic proponent thereof, is asked by the media: "Prof. A, the University of Guelph is a leading proponent of genetically modified foods, so what do you think about topic B?" Then I believe it is rather important that the professor make it clear that, although he or she is one of a group of proponents at Guelph, there is no such stance taken by the University itself. I am sure your two correspondents would not wish to see the University committed to such a stance, when the ideal that they and I seek is for the University to provide, without taking sides, the arena for the most effective study, research and debate.

Thus, clarity cuts both ways; it is a matter for proponents and opponents alike, whatever the issue. And it does not detract one whit from our right to discuss and debate whatever we wish, from either a disciplinary or an interdisciplinary viewpoint.

As the president and I have discussed these issues, he has said more than once that new challenges are arising because more of us are being

called on to be "public intellectuals" as we communicate the results of our research or our thinking to the lay public and the media. I am pleased that the University has, as of last year, a clear policy to govern the acceptance of private research funding, the need for transparency and guidelines on publication of results. What we now might benefit from, I think, is a second step whereby a group of our scholars might generate suggestions regarding the "etiquette" of how we communicate our views, without limitation, to a lay audience or the media. This could help ensure the broadest and deepest debate, and the most effective education and communication, on all research or public issues, so that the University can live up to the ideal voiced by a former Yale University president of being a place of voices, young and old, sounding out the truth.

Prof. Iain Campbell
Provost and Vice-President
(Academic)

CONFLICTING OPINIONS SHOULD BE RESOLVED BY OPEN DEBATE

In recent years, there has been criticism in the general public about topics related to tenure. The public should know that tenure is granted to junior faculty after they have convinced their tenure and promotion committee that they are competent academics and teachers. It takes five to 10 years after joining the University to have one's teaching and research abilities examined by this committee.

It is accepted by universities that where there are conflicting opinions, these should be resolved by open debate and not by nasty comments on character. Prof. Ann Clark, Plant Agriculture, has passed this hurdle and continues to be highly regarded for her teaching and research abilities.

In Prof. Clark's report on the CBC and elsewhere, she has emphasized that 1) there should be labelling, preferably mandatory labelling

of foods derived from transgenic plants; and 2) there should be testing for the presence of toxic substances in the edible portions of these transgenic plants and of their ability to induce allergic reactions. To her knowledge and to that of many others, these tests have not been performed and reported in peer-reviewed journals. The responses of industry and of OAC dean Rob McLaughlin are cavalier to say the least.

To criticize the current paradigm is not unethical. It is exactly what concerned members of the University community should be doing. Instead of being chastised, Prof. Clark should be commended for highlighting problems with the current policies in agricultural biotechnology.

Prof. Ann Oaks
Guelph

GE CROPS NOT ABOUT ENDING WORLD HUNGER

The University of Guelph should be proud of Prof. Ann Clark. Risking damage to her career and criticism from colleagues, she has continued to approach her work with a clear head and has promoted independent thinking in the farm community.

This latter point is troubling news for the University, which plays an important role in promoting chemical and genetically engineered (GE) products in exchange for research grant money and other funds. Farmers making their own independent logical decisions may not opt to spend their hard-earned money on chemical inputs and GE plants that show no real benefits to them. This kind of approach takes power away from the international agrochemical companies and gives it back to the farmers and consumers. This is disturbing indeed for those at U of G who have been blindly promoting GE crops for personal profit.

Comparable to the old Communist guard in Moscow, the GE proponents are trying to hold on to their powers at the University of Guelph.

throwing mud at anyone questioning their dogma. Prof. Clark, David Suzuki, Organic Farmers and the Council of Canadians have all been targets.

Guelph professor Doug Powell has done his fair share of mudslinging. In the Feb. 8 issue of *Ontario Farmer*, he is quoted as questioning the credibility of Prof. Clark and Dr. Suzuki. He also says that "to have genetically modified food labelled is dangerous" and that he "won't buy organic for food-safety reasons." What is this professor afraid of? Maybe health and a clear mind! I suggest that if Prof. Powell wants to promote the interests of Monsanto, Novartis and the likes, he should go on their payroll entirely and leave his publicly funded position at the University.

GE food promoters put all their cards on this questionable new technology and are now desperate to hold on to their crumbling power. Their latest plea is that GE food will feed the world. GE crops are not about ending world hunger; they are about putting control of our seed stock into the hands of the corporate elite. One look at substandard agricultural commodity prices shows that there is no shortage of food in this world. Are the warehouses and silos full of genetically contaminated canola, corn and soybeans awaiting shipment to Third World countries or are they there because wealthy European countries, Japan and now an increasing number of American consumers and companies won't buy GE crops?

World hunger has to be solved through food distribution and dismantling agricultural policies favouring mono-cropping and non-regional food supply. If the promoters of GE crops had had their way, our crop production would be directly controlled by a few multinational companies — hardly a way to end world hunger.

Lorenz Eppinger

Assistant Professor of Biology

Statement of Ontario University Chancellors on the Importance of University Education and the Value of the Liberal Arts

Editor's note: The following statement, signed by the chancellors of Ontario universities following their first-ever gathering late last year, was submitted for publication in @Guelph by U of G chancellor Lincoln Alexander. Alexander says he is pleased to add his name to the list of distinguished Canadians who have endorsed this statement.

THE CHANCELLORS of Ontario's universities recently gathered on the Glendon campus of York University. Although not all were able to attend, it was an unprecedented meeting, called by the chancellors themselves, a group of distinguished Canadians from a wide variety of backgrounds, to share their views and experiences and to reflect on some of their common concerns.

Without reservation, the chancellors expressed pride in the institutions of which they are the titular heads and confidence in the administrations who run them. They talked of future opportunities in and for Ontario and of

the challenges those opportunities present.

Following their meeting, the chancellors said:

- Higher education is of the utmost importance to the future of Ontario. To prepare the leaders of tomorrow, we need a university system that is characterized by excellence, accessibility, diversity and flexibility.
- The liberal arts and sciences must continue to be a seminal part of Ontario's higher education. This is a practical idea as much as a philosophical one. A number of recent studies have clearly underlined that a well-rounded general education — learning to think, to write and to express one's ideas clearly — is as valuable to future employability as technical or technological training.
- To meet these goals, the universities need renewed funding. Both government and the private sector (for it is increasingly a shared concern) must join in an effort to see that the needs of tomorrow — for a well-educated

workforce and a new generation of leadership — are met.

- Whatever new funding mechanisms are developed, they should permit universities themselves to manage enrolment demand and to maintain a diverse and forward-looking curriculum and program of research.
- The people of Ontario are, and should be, proud of their universities and what they stand for. They — we — should work together to see that that pride is maintained.

THE CHANCELLORS OF ONTARIO UNIVERSITIES

Lincoln Alexander, former lieutenant-governor of Ontario (Guelph)
Avie Bennett, chair, president and CEO, McClelland & Stewart (York)
John Cleghorn, chair and CEO, Royal Bank of Canada (Wilfrid Laurier)
John Craig Eaton, businessman and philanthropist (Ryerson Polytechnic University)

Peter Godsoe, chair and CEO, Bank of Nova Scotia (Western)

Peter Gzowski, broadcaster and author (Trent)
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Eric Jackman, president, Invicta Investments (Windsor)

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Arthur Kroeger, former deputy minister, Government of Canada (Carleton)

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Peter Lougheed, former premier of Alberta (Queen's)

Van O'Donovan, chair, Com Dev International (Waterloo)

James Redpath, president, RME Capital Corporation (Nipissing)

Robert Welch, former Ontario attorney general (Brock)

Lois Wilson, senator and former United Church moderator (Lakewood)

Employment Equity Survey March 6 to 10

Consultants will analyse all U of G procedures and policies related to recruitment and hiring, looking for systemic barriers

MARCH 6 TO 10 is U of G's Employment Equity Survey Week, during which most employees will be asked to complete a workforce profile survey. The purpose of the survey is to allow the University to obtain an accurate picture of the composition of its workforce and to measure its progress towards employment equity, says Pat Case, director of human rights and equity. Employment equity is designed to ensure that all employees have equal opportunity to be evaluated on the basis of their skills and qualifications.

Case says the survey marks the beginning of a new phase of employment equity at U of G, building on efforts that began in 1987 when Guelph made a formal commitment to the Federal Contractors Program (FCP). Under the FCP, organizations that have more than 100 employees and want to be eligible for federal contracts of \$200,000 or more and research grants from the federal granting councils must demonstrate a commitment to implementing employment equity. This means employers must work with employees to identify and remove systemic barriers to the selection, hiring, promotion and training of four designated groups — Aboriginal Peoples, members of visible minorities, women and people with disabilities. Employers must also take steps to increase the participation of these groups at all levels of employment.

"Employment equity programs are directed at these four groups because of the well-documented history of systemic discrimination they have faced in the workplace," says Case. "Although other groups experience systemic discrimination, the FCP is currently limited to these four groups, and the University's employment equity survey under the FCP reflects this limitation. The survey does not, for example, try to gather information about employees' sexual orientation, because no federal workforce data exist with which to compare the participation of people by sexual orientation. Recognizing this imbalance, the University will

take alternative measures, such as identifying and removing barriers to employment retention and promotion during a planned employment systems review, to ensure that everyone, regardless of sexual orientation, receives equitable treatment, hiring, training and promotion opportunities. Anti-discrimination measures will apply to all groups that face systemic discrimination."

As part of U of G's commitment to FCP, the University conducted an employment equity census in September 1990 and implemented an employment equity policy and plan. To ensure that the planning process continues to be effective, the University needs to update the information on its workforce and identify barriers to equal opportunity for its diverse employee population, says Case, who also chairs the Employment Equity Committee. The committee is made up of representatives from all U of G employee groups and includes members of past employment equity committees at Guelph.

Vic Reimer, assistant vice-president (human resources) and a member of the committee, says the inclusion of past members is important for continuity and for showing support for U of G's employment equity initiatives.

"The University owes a debt of gratitude to all those employees who have served on employment equity committees in the past, for all the time and effort they have put into this work," he says. "With the launch of this new phase of employment equity, the University reaffirms the importance of supporting the committee and the Human Rights and Equity Office as they steer the University towards reaching employment equity goals."

The committee will advise and oversee the work of external consultants hired to carry out employment equity research activities on campus over the next 18 months. These activities will consist of three phases — the March survey of the University's workforce, a review of U of G's employment systems to identify barriers, and the development of an implementation plan.

In the survey, employees will be asked to self-identify their group status, stating whether they are a member of the four designated groups.

"We believe each employee is in the best position to provide us with this important information," says Case. "Filling out the survey is voluntary, but I hope everyone will participate because having accurate information is vital to our work." He stresses that information provided by employees will be held in strict confidence and will be used only for employment equity purposes.

After the survey is completed and the composition of the workforce

is known and where U of G jobs are posted, what kinds of questions are asked in job interviews and how interviews are set up.

The results of this research will form the basis of an implementation plan, to be put into effect by management with input from employee groups and unions, says Case. The University may find, for example, that designated groups are under-represented in certain occupational categories in comparison with their availability in the workforce at large, he says. To address this, the University may put an action plan into effect in consultation with unions, employee groups and associations. This might include positive policies such as outreach recruitment to attract the best available candidates from a wide applicant pool, he says.

"Our ultimate goal is to create an environment that is attractive to a diverse workforce, treating people as individuals by recognizing that each employee has value and varying needs and will require different kinds of supports to succeed. Our employment equity programs are therefore enabling programs that help every member of our workforce to perform to his or her full potential, without any consideration of issues that are not connected with the ability to perform, such as issues related to gender, race, sexual orientation and disability. Basically, it's an issue of fairness. Employment equity is a just thing to do."

Case says one of the challenges the University will face in the months ahead is to counter negative perceptions about employment equity and individual abilities.

"We must make sure that people don't lose sight of the fact that decisions affecting employment will be based on skills and abilities," he says. "Employment equity is based on the merit principle, where employees are hired, trained and promoted on job-related qualifications and merit. As in any business, you cannot achieve success by hiring people who are not qualified."

On the threshold of a new century, U of G needs to look to the future and ensure that its workplace

reflects in a real sense the diversity of its community, says Case.

"At Guelph, we see a clear advantage in having diversity at all levels, including senior levels. The University wants to be recognized as the best among tough competition. And to be the best and maintain our tradition of excellence in an arena that is becoming more competitive, we must be committed to identifying, attracting and retaining the creativity, talent and energy of the entire workforce, not just a few. By being vigilant and putting in place measures to attract and retain a diversity of talents and perspectives, we will ensure that Guelph continues to be a leader among the best."

Although Case says he expects the employment equity process will face bumps along the way, "I am convinced that with goodwill and respect for diversity, we can work together to address the issues and to maximize the benefits for all. At the end of the day, as the University changes more to reflect the community, it will enrich everyone's lives and existence. People will wonder why they were ever concerned about it."

In addition to Case and Reimer, members of the Employment Equity Committee are Robin Begin, U of G Police Association; Douglas Carter, U of G Food Service Employees Association; Shari Dorr, Professional Staff Association; Mahejabeen Ebrahim, Human Rights and Equity Office; Mark Evans, U of G Staff Association; Darlene Frampton, Communications and Public Affairs; Chris Gillard, College Academic and Research Group; Janet Kaufman, U of G Library; James Krisilias, Canadian Union of Operating Employees; Mike Kupferschmidt, Institutional Analysis and Planning; Patricia McPherson-Law, Exempt Group; Marianne Micros, CUPE 3913; Prof. Gauri Mittal, U of G Faculty Association; Prof. Michael Nightingale, College of Social and Applied Human Sciences; Lesley Reed, CUPE 3913; Kirk Sprague, CUPE 1334; Cal Swegles, Human Resources; Brenda Whiteside, Student Affairs; and Prof. Rickey Yada, Food Science.

"By being vigilant and putting in place measures to attract and retain a diversity of talents and perspectives, we will ensure that Guelph continues to be a leader among the best."

has been analysed, the results will be made available to the University community in statistical summaries, so that individuals cannot be identified. These summaries will be used to determine whether the University's workforce is representative of the Canadian labour pool, Case says.

In the second phase of research, the consultants will set up focus groups to learn how U of G is perceived as an employer and a recruiter. These groups will include members of both on-campus and off-campus communities and representatives of the four designated groups. This process is expected to begin in late summer or early fall.

The consultants will also analyse all U of G procedures and policies related to recruitment and hiring, looking for systemic barriers and scoping for human rights issues, says Case. Procedures to be examined in-

Study to Explore Role of Insulin Resistance

Metabolic syndrome could be important risk factor for range of diseases

FORGET your cholesterol level... are you insulin-resistant?

Increasingly, medical researchers are finding that insulin resistance (also called "Syndrome X" or the metabolic syndrome) might be an important risk factor for a range of diseases besides diabetes, including heart disease, stroke and some cancers. That's why Prof. Paula Brauer, Family Relations and Applied Nutrition, has received a \$20,000 grant from the Danone Institute to carry out a year-long study of the effects of being insulin-resistant on the success of weight loss in obese women.

According to Brauer, insulin resistance could be as important a risk factor as cholesterol, "so identifying key factors of the syndrome and developing therapies to control it are important for future disease prevention."

Both genes and lifestyle affect the degree of insulin resistance, with weight gain and lack of physical activity being particularly damaging in people predisposed to the syndrome.

Brauer was approached by a Hamilton-based diet firm to evaluate health outcomes of their weight-loss programs. The firm's particular

program was originally developed at McMaster University Hospital and uses behavioural approaches to encourage long-term, moderate lifestyle changes.

Brauer will carry out a "before and after" study of 200 women. At the outset of the diet program, she will determine body weight, overall health-related quality of life and degree of insulin resistance, and conclude by assessing weight loss and changes in quality of life, comparing those who probably have the syndrome with those who do not. There is no single measurement or test for

insulin resistance, so several blood and body measures will be used to develop a probability estimate for syndrome presence.

"We want to find out if a moderate behavioural weight-loss program is as beneficial in health terms and health-related quality of life for insulin-resistant obese women as for non-insulin-resistant obese women," says Brauer.

She will employ the widely used SF36 quality-of-life screening tool to measure physical and mental functioning. "By using the SF36, we can compare the results we obtain with

population norms and with many other studies of health-care programs."

Brauer, a dietitian by training with a PhD in epidemiology, will also study whether insulin-resistant women lose weight more easily than non-resistant women do and whether they manage to keep off the weight in subsequent months. She and her colleagues will also be looking for funding to assess whether participation in the program affects the use of medications and the health-care system.

BY ALEXANDER WOOLEY

THE CANCER STAGE OF CAPITALISM

"The techniques which induce a paradigm change may well be described as therapeutic, if only because, when they succeed, one learns one had been sick before." Thomas Kuhn

BY JOHN MCMURTRY

Editor's note: The following is an adapted excerpt from the preface of *The Cancer Stage of Capitalism* by Prof. John McMurtry, Philosophy. Published in 1999 by London's Pluto Press, the book is currently being translated into Japanese by Springer-Verlag of Tokyo.

THE TITLE OF THIS BOOK is not a provocative metaphor. It is a conceptual outcome of my investigation of regulating principles of social life-organization over 30 years.

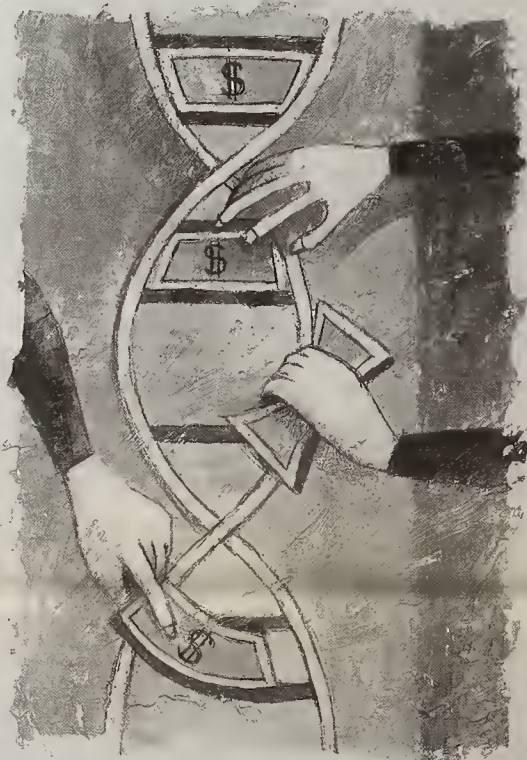
At the most general level, both social and cellular levels of life are subject to states of disease (i.e., systemic reductions of life function). Both have endogenous capabilities to recognize these dysfunctional states and to respond to them by selecting against what causes them. Both either succeed at this immune recognition and response — we should bear in mind that these concepts are originally social categories — or they suffer an advancing deterioration of their life capacities. Each is vulnerable to prolonged immune-system failures in which the aggressive growth of an invasive agent with no committed function to the larger life-host increasingly appropriates its resources for its own decoupled multiplication.

Between these poles of survival and development on the one hand, and degeneration and death on the other, are countless degrees of possibility within the common life requirements of social and cellular systems. The most fundamental and significant difference between the cellular and social planes is that social organizations are not genetically determined in their healthy or their pathogenic sequences of function and reproduction. Social bodies, unlike cellular bodies, reproduce in every moment through underlying value codes and decision structures, which, as human, are subject to conscious modification. The standpoint of this analysis rejects all reductionist theories of societies being determined in their histories by "economic laws" or "genetic blueprints."

Pathogenic patterns at the social level of life-organization are analysed in this investigation as, in fact, value program mutations. A pathological social value program is a set of presupposed principles of preference that mutates beneath notice and comes to select for exchanges within the social body that invade, deplete and strip the society's vital resources and functions. Such a pathological value program underlies ideology, which is merely a rationalizing disguise for it. If not arrested, it comes to be a system decider for the entire social host. It may appear to its bearers as law-like in its operations and even "inevitable." But it is, at bottom, an unexamined and locked decision sequence that is life-blind and delimited from the requirements of its human and environmental hosts.

The first chapter of this study is devoted to laying bare the operation of closed value programs across the history of civilized thought. The second, third and fourth chapters expose and track the dominant value program of the last three centuries, the mutating market paradigm, into its recent carcinogenic eruption and metastasis. The concluding chapter considers the evolution of the unseen substructure of history, the civil commons, as the underlying and accessible foundation of an alternative life-value economy.

This investigation's framework of social self-understanding adopts a wider lens than the currently received models of social explanation — in particular, the engineering model of neo-classical economics, which has no co-ordinates of life value. It is a telling symptom of our condition that no established general theory of social analysis has yet grounded itself in life requirements as such. Instead, some social construct is invariably adopted as the ultimate reference body — the state, a racial type, a class, technology or, in this case, the monetized growth of private capital stocks. Once the closed reference-set decouples from the interconnected requirements of life-organization itself and becomes an autonomous system of selection and exclusion overriding all claims of life so as to multiply its own structure, it



becomes a lethal value program. The degree of its deadliness, in turn, is borne by its technical powers of manufacture, communication and destruction.

The "self-regulating" global corporate system presents us with a totalizing paradigm of such a program at the end of the 20th century. Its technical powers have propelled the wholly unprecedented crisis of global life deterioration and collapse that emerges today. Underneath every step of its advance, a single overriding sequence of value with no commitment to life's reproduction, diversification or experiential range selects at every level what shall survive and what shall die. Turning money-demand into maximally more money-demand for private stockholders and speculators has in this way become the ultimate new selector of current world existence.

Although the analysis ahead identifies the historically recurrent problem of life-destructive value programs from ancient slave society on, it focuses on the causation, effects and resolution to the current global corporate disorder. It shows that the original market model has become increasingly life-blind by unseen mutations of its regulating principles and by media-blocked connection to their progressively depredatory effects. Throughout the recent emergence of the planetary cancer, an undetected "pathogenic money code" has found ever more pathways of opportunistic invasion via funding control of political parties and research programs, so that today its proliferating sequences have assumed forms unrecognized by economic theory and never seen by Karl Marx.

These life-attacking money sequences overwhelm their social and environmental life-hosts by the vector of non-living corporate and speculator conglomerates. They become dominant through leveraged and credit money-demand without a gold standard or legal-tender reserve requirement to inhibit their borderless circuits of self-multiplication. Once established, they are propelled and metastasized by ever more de-regulation, velocities and volumes of cross-boundary

transaction advancing and spreading by new vehicles of self-increase, in particular corporation-dictated trade and investment regimes supplanting responsible government. They secure ever-new sites for their expansion by variously invading public resources and services to control and appropriate them as new extensions of their own growth.

None of these conditions existed in full invasive opportunity until the fall of the Berlin Wall. All took their current footings after the Vietnam War — unregulated "Eurodollars" tides to pay U.S. military debt, the abandonment of the gold-standard anchor for floating-peg U.S. dollars, surplus windfalls of U.S. and Arab petrodollars flooding into dictator-created Third World debts, more than a trillion dollars of highly leveraged Japanese loans pervading the world's markets, and ever-rising deluges of borderless pension-mutual funds, uncommitted capital flows and vast currency and stock speculations entering and exiting societies overnight with no function but their own self-increase. Yet no one asks as each crisis unfolds: "Why did the capitalist experiment in Russia fail?" "Who but Wall Street gains from the Asian meltdown?" "What environmental breakdown is not now driven by private corporations' use of nature as a loatable resource and open sink?"

Recognition of a disease is a necessary precondition to successful response to it. But at this stage, governments themselves assume that societies have "no alternative" but "to adjust" to "global market competition" and its master value prescription of "maximizing returns to stockholders." It is also assumed that every decision and variable that advances these money-increasing sequences is "value adding" and that together they form "the new reality" governing nations. But what is not understood is that all of this system is propelled by a single, ultimate and overriding substance of value, uncontrolled money-and-loan demand, in which money creation itself has been taken over from public authority by private financial institutions with no hard currency or other reserve requirements. There is no devil or megamachine behind this monstrous construction, but rather an unexamined and reified value set that is socially manufactured, socially sustained and socially enforced through every moment of its determination. It is no more like the laws of motion of physics to which its imperatives have been assimilated by economists than the etiquette regimes of feudal China, which were regarded with the same awe. But because this value program has been reproduced with such habitualized regularity and so crouched before by intellectuals across the world, it has come to be seen as imposed by external laws rooted in the natural order of the universe.

Thus, a corresponding theology arises of an "invisible hand," inviolable "economic laws," heretical doctrines that oppose its "self-regulation," punishments for disobedience to its commands and — to ensure compliance with the doctrine's prescriptions — never-ending sacrifices of the poor to ensure society's accession to some future but never-realized heavenly state.

If the world is to recover, the mutant growth pattern must be redirected. This realignment to life co-ordinates is technically accessible once the pathogenic pattern is socially recognized. Already evolved instruments of social sovereignty, domestic and international law and democratic accountability are adequate to the task of restoring civil and ecological life systems to health. The issue is not one of obliterating an invading external enemy. The deeper issue is to recognize and re-regulate the locked, mutant value program that now organizes governments — and universities — as its servo-mechanisms, with no effective life-value regulators to inhibit its ever more aggressive advance.

REPORT OF THE WORKING GROUP ON ACCESSIBILITY

MEMORANDUM TO SENATE

I AM PLEASED, on behalf of the Senate Committee on University Planning (SCUP), to submit to Senate and the University community the Report of the Working Group on Accessibility and the Enrolment Management Committee's recommendations arising out of the report. Work on the report began in 1997 in response to Senate motions that raised the issue of the possible impact of tuition increases on accessibility. The working group was chaired initially by the late Prof. Sid Gilbert.

Following the untimely deaths of Prof. Gilbert and working group member Joanne Duncan-Robinson, the president made a commitment to Senate that the report would be completed. Prof. Ian McMillan, another member of the working group, agreed to take on the task of producing the final report. To assist him with this project, I appointed two SCUP members, Profs. Ken Grant and Val Davidson. They were fortunate to be able to contact Linda Quirke, the graduate student member of the working group, who had left the University

following completion of her degree. Her comments have been incorporated into the final report.

SCUP received the report at its December meeting. Among the issues identified in the report was a decline in the proportion of University of Guelph students from low socioeconomic status (SES) backgrounds. SCUP asked the Enrolment Management Committee for advice on what actions might be taken to address this issue. In line with comments in the report about the effectiveness of increases in recent years to needs-based student aid (since 1990, the University's total annual budget for student support has risen from \$1.7 million to more than \$10 million in 1999, and last year, more than 50 per cent of the \$10 million was allocated to needs-based assistance), the Enrolment Management Committee proposed that the University further increase this type of financial aid. SCUP endorses that course of action.

Recently, it has come to SCUP's attention that, coincident with the work done here at Guelph, there has been a national

study by Statistics Canada and the Council of Ministers of Education, Canada (CMEC). Their report indicates that the situation at Guelph may be part of a national pattern. The StatsCan/CMEC study found that the percentage increase of students attending university from the lowest SES group was significantly lower than for middle and highest SES groups nationwide over the period 1986 to 1994. (The report of the working group covers the period 1986 to 1996.) For anyone interested in the StatsCan/CMEC report, it is called "Education Indicators in Canada: Report of the Pan-Canadian Education Indicators Program" and can be found on the Web at www.cmec.ca/stats/pceip/1999/.

On behalf of SCUP, I would like to extend our thanks and appreciation to all those involved in this important and difficult project who helped bring the report to fruition.

Prof. Glen Van Der Kraak, Chair
Senate Committee on University Planning
February 2000

EMC'S RESPONSE TO SCUP ACCESSIBILITY TO THE UNIVERSITY OF GUELPH

Background

The Enrolment Management Committee (EMC) has discussed the report of the Working Group on Accessibility at three meetings. The comments below are not a formal response to the document, but are in keeping with a request from the Senate Committee on University Planning to consider whether there are specific ways the University of Guelph should respond to issues raised in the document.

General comments

EMC recognizes the difficulty of collating and interpreting data on accessibility to higher education. The report clearly highlights the negative association of the diversity of socioeconomic backgrounds of students registering at universities in Ontario with the significant increases in tuition fees and the high costs of attending university. The costs of attending residential universities pose greater financial barriers for people from lower socioeconomic backgrounds than do institutions where a student may live at home. The problem is clearly endemic in the system and not specific to Guelph.

The data collated in the document are now several years old, and there have been significant changes in the amount and composition of financial aid made available to stu-

dents at U of G and other institutions in Ontario. The impact of these changes on accessibility and debt load is not yet apparent. At the same time, there have been continuing changes in the conditions of loan support from the province through OSAP, and this year almost 1,500 students at Guelph received Millennium Scholarships from the federal government. Again, the impact of these changes on student debt load and accessibility are not known.

Despite all the problems analysing the impact of the cost of attending university on accessibility (including retention issues), EMC is firmly of the opinion that there continue to be financial barriers to education for some students. EMC is committed to the policy of the Senate Awards Committee to sustain efforts to reduce these barriers in a way that targets non-loan money to students from lower-income backgrounds.

Financial aid at Guelph

In addition to the very significant increase in the amount of needs-based awards for students with identified financial need at U of G (exceeding \$10 million from all sources in 1999/2000), due partly to the tuition reinvestment (a portion of any increase in fee that the province mandates has to be allocated to student aid) and partly to the very successful ACCESS campaign, the

University has put in place several different initiatives to provide financial support for students. In each case, financial need is determined through a financial needs-assessment process. Some of the approaches provide work opportunities for students with identified financial need, some are linked to financial need and academic performance, and a significant amount of money is allocated as grants, strictly on the basis of financial need. The awards are made available to students entering the University, and there is a small number of awards for continuing students. In some cases, the entrance awards are continued on the grounds that the student can demonstrate continued financial need.

Two years ago, the University introduced a new category of grants known as accessibility awards. These awards were offered to entering students with the highest levels of financial need. Each award comprised a grant of \$4,000 for the first year and \$1,000 in each of the subsequent three years. The grant is continued in subsequent years provided the student continues to demonstrate financial need.

Forty accessibility awards were offered in 1998, and the number of these awards was increased to 100 in the current academic year. Initial feedback from the students receiving

these awards is very positive, but it's too early to determine their impact on student debt load and accessibility (as determined by the diversity of socio-economic backgrounds among entering students). But EMC plans to monitor the impact of the accessibility awards and will report the findings to Senate when they are available.

Recommendations

EMC is currently modelling the approaches to be taken for the distribution of financial aid for 2000/2001. It's not possible at this stage to determine the precise allocation of resources in various categories because the size of the tuition reinvestment pool can only be determined when the tuition fees for 2000/2001 have been set. EMC cannot complete this task without an official announcement by the provincial government on the university grant and any conditions on tuition fees that the province might choose to set.

The committee is, however, strongly committed to the principle of reducing financial barriers to education for students who struggle to meet the financial challenge of attending university. The committee therefore proposes to recommend that the number of accessibility awards be increased by 10 to 20 additional awards each year over the next five years. This would be in keeping

with the report of the Working Group on Accessibility. This effort will also be assisted by student assistance funds generated by the campaign in the future.

EMC recognizes that the University cannot begin to solve the system-wide problems related to all accessibility issues, nor does it have sufficient resources to provide a comprehensive financial aid program to all students with financial need, many of whom must leave home to study at Guelph. Nonetheless, the committee strongly supports an increase in the number of accessibility awards subject to the reality of University resources. These awards should be made available to admitted students with the highest level of documented financial need, and recipients should be eligible for continued support under certain conditions over a specified duration of study. Offering students greater opportunities for sustained financial support is a Senate Awards Committee policy that EMC strongly endorses.

The committee anticipates that part of the funding for this increase in the number of awards will come from tuition reinvestment, but the chair of EMC has been asked to approach the senior executive for an increased allocation of operating funds in the 2000/2001 budget to support these additional awards.

Report to the Senate Committee on University Planning

Accessibility and Affordability of University Education

December 1999

Sid Gilbert, Ian McMillan, Linda Quirke, Joanne Duncan-Robinson

Executive Summary

THE SENATE COMMITTEE on University Planning (SCUP) created a subcommittee to respond to the March 11, 1997, Senate motions on the possible impact of tuition increases on accessibility.

1. Context

- University tuition and other costs of attendance have increased dramatically.
- Student assistance has shifted from grants to loans; student debt has increased as a result.
- The ability of students and their families to pay for university education has not increased.
- Students base their post-secondary choices on perceptions

of current attendance costs, attitudes toward debt, and income/employment expectations for the future, not on the actual rates of economic return for previous generations of university graduates.

- Until recently, full-time enrolment in Canada has been stagnant.

2. Definition

Accessibility to university is not concerned with the numbers of students attending university, but with which students are attending, i.e., their social backgrounds.

3. Main Research Questions

- Has the social class composition of the student body changed over

time?

- If so, to what extent can these changes be attributed to tuition and other cost increases?

4. Findings

- Students come mainly from English-speaking, white, Canadian backgrounds.
- Over a 10-year period, Guelph's incoming student survey indicates that the social and economic backgrounds of first-year students have changed. Relatively more students from higher-educated and affluent families chose admission to Guelph than those from lower-educated and low-income backgrounds.
- Two admitted student questionnaires indicated that the cost of at-

tendance is an important determinant for low-income applicants who have the choice of attending a local university in deciding whether to accept Guelph's offer of admission. The costs of attendance appear to influence the choice of the institution at which such students eventually register. But there may be other, non-financial matters that students also consider.

- Students who come from regions without a local university view the cost of attending Guelph to be equal to or lower than the costs elsewhere.
- Compared with the somewhat selected sample of Ontario universities in 1994 and 1995, Guelph has proportionately fewer students

from families with incomes less than \$40,000 and lower-education backgrounds.

- The effect of increased costs on enrolment may have been mitigated by increases in needs-based financial aid.

5. Conclusion

It is a strong demonstration of public accountability that we care enough to investigate this issue. But our institution by itself and with its current resources cannot resolve the accessibility problem. The information in this necessarily limited study provides the University and educational policy-makers with compelling evidence of the negative implications that public disinvestment in post-secondary education has for accessibility.

1. National/Provincial Context

Nationally, a number of recent trends call into question whether or not accessibility to university education is at risk. First and foremost, university tuition and other costs of attendance have increased dramatically. Since 1980, average university tuition increased by 115 per cent after adjusting for inflation (Clark, Statistics Canada: 1998), and overall costs of attendance increased by an estimated 6.6 per cent a year (*The Toronto Star*, Sept. 18, 1997).

Second, government-sponsored student assistance has shifted from grants and bursaries to loans. Average student debt levels have more than doubled since 1992/93 when the Ontario study grant program was eliminated and replaced with a loan forgiveness component (Council of Ontario Universities, *Ontario's Students, Ontario's Future*, March 31, 1999).

Third, and consistent with the preceding observation, despite efforts by Canadian universities to provide more non-repayable assistance, student debt loads across the country have increased dramatically since 1982. Compared with the graduating class of 1982, 1995 baccalaureate graduates owed almost 140 per cent more in student loans after adjusting for inflation, and will probably take longer to repay these loans (Clark).

Fourth, and on the other hand, household incomes have not increased dramatically. Over the same period that university tuition increased 115 per cent, average family incomes rose only one per cent after adjusting for inflation (Clark).

Fifth and finally, the skills, employability and incomes of university graduates are not perceived as positively as they are for other educational avenues. According to one

Angus Reid poll, Ontarians believe a college diploma in a technical occupation, apprenticeship in a skilled trade or a high school diploma with on-the-job training better prepares students for the future labour market than does a university degree in law, social work or arts. Only three per cent of respondents thought a university degree in arts would provide the most valuable education for the labour market 10 years from now (Mackie, *The Globe and Mail*, July 15, 1998). A more recent Angus Reid poll shows that the general public acknowledges the long-term earning and career growth potential of university education, but still believes that a technical/trade certificate provides the best chance of finding employment. The vast majority of respondents (95 per cent) who thought trade school or college education provided the best employment opportunities were not aware that unemployment rates in Ontario were lower for university baccalaureates than for college and trade school graduates. And when informed about the statistics, two-thirds refused to alter their opinion. Focus group participants viewed the unemployment statistics with cynicism.

Although numerous studies document the positive, short- and long-term employment or labour-market placement rates, income and career realities for university graduates (Stager 1996; Allen 1998; StatsCan 1999), a distinction needs to be made between what the empirical research shows and what the general public and youth perceive to be the case. It's likely that these perceptions will form the basis of the decisions young people make about post-secondary education.

The above observations may partially account for why full-time university enrolment until this year has been flat since 1992 and part-time enrolments have been declining.

They may also explain why in 1998, Ontario, with the largest average undergraduate arts tuition increase, had a 1.4-per-cent decline in full-time enrolment, while B.C., with the smallest average undergraduate arts tuition increase, had a 14.7-per-cent increase in full-time enrolment (StatsCan, *Education Quarterly Review*, Vol. 5, No. 2, 1998; StatsCan, *The Daily*, Nov. 10, 1998). But the first signs of the projected increases in enrolment from demographic and participation rate changes may have been observed in the fall of 1999; first-year enrolment increased by more than six per cent (COU).

Although Ontario universities may face future enrolment pressures from demographic and double-cohort effects, the question of university accessibility has less to do with the size of enrolment and more to do with the composition of the enrolment. Even if enrolment burgeons after 2002, the question is, who is enrolling?

2. Definition and Local Context

Accessibility to university education does not involve the total, absolute or overall level of student enrolment. It is not concerned with "Are students still coming to university?" but with "Which students are coming to university?" Overall enrolment could increase or remain stable because many more students from high-income backgrounds — but fewer from low-income backgrounds — are attending.

Circumstances may have changed so dramatically that students, particularly those from low-income backgrounds, may now question whether or not they can afford to attend or to live away from home. For these students, a total cost threshold (including tuition) may have been crossed. The problem can be stated succinctly:

When costs of attendance are high, when future employment and incomes are perceived to be uncertain, and when students from modest backgrounds need to incur large debt obligations, will they attend university?

Some observers note that students are now simply paying the same proportion of total university expenditures that they paid in the past, but this misses the point that prior to 1960, universities were rather elitist institutions, reserved for the privileged few. Again, the accessibility issue involves: "Who attends?" not "Who pays?" or "What proportion of total university expenditures do students (overall) contribute through tuition fees?" The issue is not the percentage that students are paying of university expenditures or revenues; it is who is there in the first place to pay? If only children of the rich attend and they pay 100 per cent of the costs, you have exclusive private education. If primarily affluent students attend (70 per cent) and they pay 30 per cent of the costs, you have a massive public subsidy to the wealthy. On the other hand, if students attend in proportion to the class distribution in the general population and they pay zero per cent or 100 per cent of their education costs, you have accessible education that is, respectively, publicly or individually financed. It's important to separate out the accessibility issue (who attends?) from the university financing issue (who pays?). Similarly, some observers point out that if you control for inflation, tuition costs and family incomes are roughly at the same levels they were at the start of the 1960s. Again, at the beginning of the 1960s, the overriding policy concern was accessibility to university education.

In theory, it is not the gross or total costs of attendance that should matter to students, but the net costs of attendance (the total costs less stu-

dent assistance) that should be examined for any impact on students from lower-income backgrounds. Again in theory and in the longer run, it is not even the net costs that should matter to students, but the rate of return on their investment. If students' lifetime earnings more than compensate for their net educational costs, including the interest on borrowed money, then economic rationality suggests they should continue to pursue a university education. This perspective, of course, assumes that students have complete, accurate information and make financially rational decisions — two very tenuous assumptions.

Guelph is one of the most residential universities in Ontario; it accommodates about 4,100 students in university housing and draws almost 90 per cent of its students from outside the local area. Other examples of "residential universities" in Ontario are Queen's and Waterloo, whereas "commuter universities" such as Ottawa, Carleton, Toronto, Ryerson, York and McMaster draw the majority of their students from their local areas. At Guelph, the total costs of attendance are higher than for students who attend a university in their local region. For students from regions that don't have "home" universities, the relevant question is whether these students perceive the full costs of attendance to be higher at Guelph than elsewhere.

Despite enrolment management efforts to restrict cost increases, residence fees increased by 14.5 per cent and meal plans by 17.1 per cent between 1992/93 and 1998/99. Tuition costs have also increased substantially in the past few years, but they don't vary greatly across Ontario universities. U of G's tuition fee, at \$3,465 for 1998/99, is just \$57 below the Ontario system average (\$3,522). Some analysts therefore ask: "How can tuition fees at Guelph damage

accessibility if they are lower than most or at least not much different than those at other Ontario universities? This question is answered later in the report.

U of G does not have the market advantage of universities in Toronto, Ottawa and Hamilton. Its local area is small, and two other universities nearby attract students from the same economic region. Attendance at Guelph will allow some savings for local students from modest or low-income backgrounds, but students from other regions must pay the full costs to attend Guelph. Students from other regions, particularly those from low- or modest-income families, who have the opportunity to attend a local university will do so, all other things being equal. For these reasons, U of G may be appealing more and more to the affluent away-from-home market and less and less to the general away-from-home market. It's not that Guelph may be attracting more students from the non-local area, but that students from outside the local area who enrol at Guelph may be, increasingly, those who can afford it.

Another contextual factor, the recent increases in applications and enrolments, has prompted some analysts to wonder about the role of tuition, because these increases occurred when tuition rates were increasing the most. As indicated above, application and enrolment data by themselves prove little. It's the composition of the enrolments or applications that is relevant to the accessibility issue. Enrolments and applications could increase at the same time tuition is increasing because over time, more and more higher-income students are attending, while costs have driven lower-income students away. In other words, the rise in applications/enrolments may be class-based.

We will address all these factors in the analysis and interpretation of the data at hand.

3. Background

In 1997, the SCUP asked a small subcommittee (Sid Gilbert, Ian McMillan, Judy Paisley and Linda Quirke) to respond to Senate motions (March 11, 1997) concerning the possible impact of tuition increases on accessibility. The subcommittee examined the feasibility of using internal data to address the Senate motions. It determined that the University did have the useful data sets and elements to investigate accessibility and, to a lesser extent, examine whether or not one dimension (changes in tuition and other costs of attendance), might influence students' decisions to enrol or affect their progress through university, particularly students from modest socio-economic backgrounds. But the nature of the data makes it difficult to separate variables and precisely assign causality, so the report does not try to investigate all the reasons or variables that predict enrolment/progress. The report therefore focuses on one element of accessibility, the financial aspect. This narrower but appropriate goal is different from a conventional multivariate examination of the independent effects of a variety of influences on university attendance/progress. It is not necessary

to perform multiple regression analyses (nor can you, given the data) to answer our more limited question.

Any thorough study of university accessibility would need to transcend individual institutions and include the background, performance and decision factors that high school students use when making an enrolment choice. To a certain extent, university students represent a self-selected population. It would be better to examine the impact of determinants and influences on educational attainment with a longitudinal research design involving high school students and their transitions to work or post-secondary institutions than to investigate what has happened to an already self-selected group. The relevant effects would have already occurred and the composition and nature of the group would reflect that.

SCUP and the provost and vice-president (academic) asked Prof. Sid Gilbert, Prof. Ian McMillan, Linda Quirke and Joanne Duncan-Robinson to perform the data analysis and to report back. (Gilbert's research involved the impact of educational structures and processes on educational outcomes. McMillan is a geneticist/statistician in the Department of Animal and Poultry Science. Quirke is a graduate of the Department of Sociology and Anthropology who completed her thesis on university accessibility. Duncan-Robinson was a statistician/data analyst in the Department of Sociology and Anthropology.) The specific Senate motions were:

- that Senate establish a task force to identify and measure appropriate outcome indicators for the determination of the impact of tuition increases on enrolled undergraduate and graduate students; and
- that the task force collect baseline and follow-up data to determine whether increases in tuition have an impact on the accessibility of U of G to potential students from varied socio-economic backgrounds.

These motions suggest that Senate had two primary concerns. The first was that tuition increases may negatively affect students already in attendance. These students had initial plans and expectations about costs that were now altered and may therefore result in food, shelter, clothing, employment, debt and other adjustments that are non-financial, such as attendance status (full-time to part-time), stress and academic performance. Second, Senate was concerned that tuition increases may make U of G less accessible to students from a variety of socio-economic status (SES) backgrounds. It needs to be emphasized (because some analysts have misconstrued the motion) that this resolution does not suggest that Guelph may become less accessible relative to a narrowly defined set of competitor universities. Our objective is not to examine how well we are doing on tuition vis-à-vis our competitors but to examine any change to the social class composition of entering students and to investigate if financial aspects have anything to do with that. Nor do we really care whether or not other uni-

versities have more flexibility to increase tuition in professional undergraduate programs than we do. We do care whether or not urban universities become more appealing to students from low-income backgrounds over time as costs increase, while we become less appealing.

The second Senate motion asks whether tuition increases at Guelph may have an impact on students from lower SES backgrounds. In other words, relative to the past, fewer students from low-education, low-income families (even if they are high achievers with excellent grades) may apply to attend U of G. This could also be the case at most universities in Ontario and other provinces (except for Quebec and B.C.). Because tuition and other costs of attendance have been increasing steadily and relatively uniformly at all universities (except for those in Quebec and B.C.), accessibility could be damaged across the board. Guelph is only one case in point.

Because overall costs of attendance (with tuition folded in) at U of G are already higher than at commuter institutions, any cost threshold that exists for students from low-income families will be exceeded in the first instance at Guelph and other similar residential institutions. Like other residential universities, U of G may be at greater risk of losing qualified students from modest backgrounds than non-residential universities are.

4. Recent Relevant Literature

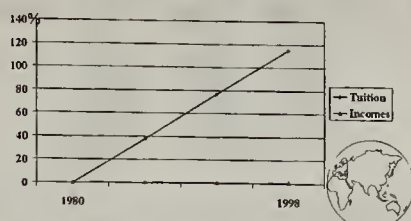
In the 1960s, financial and attitudinal barriers to accessibility were popular research and policy questions. The standard position was that no students who had the desire and ability to attend university should be deterred by their financial circumstances. This concern dissipated as university enrolments and expenditures grew between the early '60s and late '80s. The overriding policy issues became excellence, quality and financing post-secondary education. In light of recent changes in the economic context, however, there is now emerging concern in the policy and research communities in Canada and the United States about accessibility to university education.

In 1997, the Maritime Provinces Higher Education Commission released a study on accessibility to post-secondary education in the Maritimes that contained this overall conclusion:

The research clearly demonstrates that the cost of post-secondary education and increasing debt levels are significant factors in the decision students make about whether or not to continue their studies beyond high school. *Even more significant is the finding that students from lower-income households are much more likely to be affected by financial issues when deciding to pursue or not to pursue their education beyond high school (emphasis ours).*

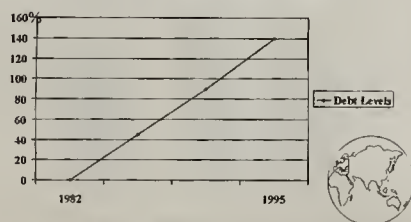
As mentioned earlier, high school students probably make post-secondary decisions based on what they think is going to happen in the future, not on what actually happened to generations in the past. Prospective post-secondary students are especially unlikely to be aware of

Fig 1.1: Per Cent Increase in Tuition Rates and Household Incomes in Canada over time After Adjusting for Inflation



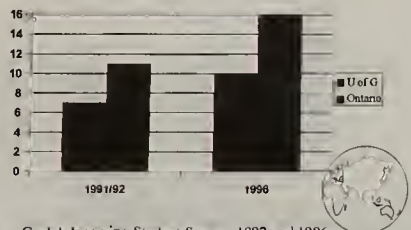
Source: Clark, Statistics Canada: 1998

Fig 1.2: Per Cent Increase in Amount of Canadian Graduates' Student Debt After Adjusting for Inflation



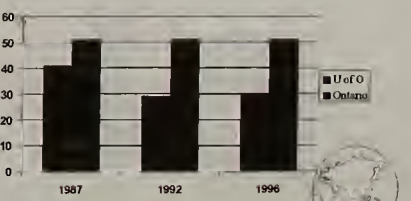
Source: Clark, Statistics Canada: 1998

Fig 7.1: Per Cent of Visible Minority Students Entering the University of Guelph Compared to Per Cent of Visible Minorities in Ontario



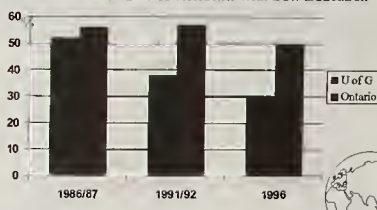
Source: Guelph Incoming Student Survey, 1992 and 1996, 1991 and 1996 census, Statistics Canada

Fig 7.2: Per Cent of Males Entering the University of Guelph Compared to Per Cent of Ontario Males aged 18-24



Source: Guelph Incoming Student Survey, Postcensal Annual Estimates of Population and Annual Demographic Statistics, Statistics Canada

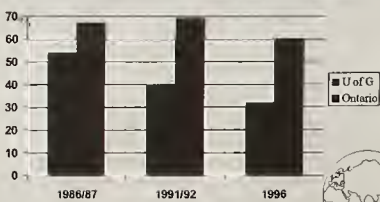
Fig 7.3: Per Cent of Students from Low-Education Backgrounds* Entering the University of Guelph Compared to Per Cent of Ontario Residents with Low Education



*Based on father's education, high school or less

Source: Guelph Incoming Student Survey, 1987, 1992 and 1996; 1986, 1991 and 1996 census, Statistics Canada (Ontario males aged 45-64 with high school education or less)

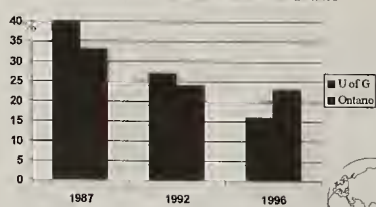
Fig 7.4: Per Cent of Students from Low-Education Backgrounds* Entering the University of Guelph Compared to Per Cent of Ontario Residents with Low Education



*Based on mother's education, high school or less

Source: Guelph Incoming Student Survey, 1987, 1992 and 1996; 1986, 1991 and 1996 census, Statistics Canada (Ontario females aged 45-64 with high school education or less)

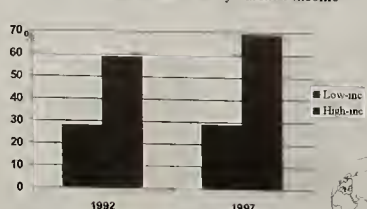
Fig 7.5: Per Cent of Low-Income Students* Entering the University of Guelph Compared to Per Cent of Low-Income Families in Ontario



* "Low-income" refers to parental income of less than \$40,000

Source: Guelph Incoming Student Survey; General Social Survey, Statistics Canada (Ontario families with age of head 45-64 with income of less than \$40,000)

Fig 7.6: Per Cent of Entering Students at the University of Guelph who Received more than \$3,000 from Parents to Cover Educational Costs by Parental Income*



* "Low-income" = under \$40,000, "High-income" = \$40,000 or over
Source: Guelph Incoming Student Survey

the statistical realities for previous cohorts of graduates described in academic publications like those prepared by Stager, Allen, StatsCan (1999) and COU. So public perceptions, particularly by students from low socio-economic backgrounds, who may have preferences for applied forms of education and may be debt averse, could be more important than the actual realities for older cohorts of high school graduates.

The University of Waterloo Federation of Students recently conducted a national telephone survey of university students about their attitudes to attendance costs, tuition, student loans, grants or bursaries, employment, expected earnings and how these vary by social background factors. Even better would be a survey of high school students that could examine differential preferences by social class groupings for work, various kinds of post-secondary programs, debt holding, etc., before self-selection occurs.

In the United States, research has discovered that tuition has a "sticker shock" effect, especially for lower-income students. Tuition tends to be a highly visible cost compared with the various forms, amounts and processes concerning student assistance. Lower-income students appear to react to — and make educational choices based on — the highly visible sticker price of university education (Heller 1997). What may matter more than net costs and long-term rates of return to students from modest social backgrounds are current sticker prices, attitudes towards loans (debt aversion), and employment and income expectations.

Students, especially those from low-education family backgrounds, reasonably ask: "Is it worth it?" To what extent will students from low-income family backgrounds take the risk? Again, the issue is not what the economic benefits were for previous generations of university graduates but what they are expected to be in the future by the current generation of high school students, especially those from modest backgrounds.

5. Methodology

A thorough analysis of the accessibility issues requires investigating the factors that determine the willingness to attend university, those that determine institutional choice and those that influence retention over a student's program. We have not been able to deal with the first or third issues. Our analysis of the second issue forms the bulk of this report. There are some limitations imposed on us by the data. Specifically, the data permit us to establish a statistical association between the socio-economic mix of Guelph's student population and rising attendance costs (including tuition fees), but we cannot establish causality because institutional choice depends on a host of other factors such as admission averages, availability of programs, home region of the students and institutional reputation. Such factors have not been addressed in our statistical tests. For each analysis done, the method of comparison between relevant groups was by chi-square. Significant differences in proportions are indicated by an asterisk subscripted to each table where they occur. The researcher team did the following:

- reviewed literature in this area;
- discussed the issue with colleagues;
- monitored emerging student and policy concerns;
- analysed data from U of G's incoming student survey;
- analysed data from the University's admitted student questionnaires (ASQ);
- conducted qualitative interviews with in-course students about finances and university experiences and adjustments;
- compared the socio-economic background of Guelph students with those at selected other Ontario universities, (Nipissing, Western, Ottawa, Brock, Laurentian, King's College and 12 colleges/programs at the University of Toronto in 1994; Nipissing, King's College, Lakehead and 12 colleges/programs at the University of Toronto in 1995), the general Ontario population, university students and graduates nationally (Acadia, Brandon, Carleton, Concordia, Dalhousie, Laurentian, McMaster, Memorial, Nipissing, Queen's, Ryerson, Simon Fraser, St. Francis Xavier, British Columbia, Lethbridge, Manitoba, Ottawa, Waterloo and Wilfrid Laurier); and
- reviewed the general national research findings on change to the socio-economic background of university students.

The incoming student survey is rich in detail and has been conducted annually since 1987. It is administered to new U of G students on registration day each fall. Response rates are around 50 per cent and produce large samples of 1,161 to 1,400 students. There are some points about these data that need to be acknowledged. First, the sample mix of on-campus residents and off-campus residents is important. The survey is directed mostly to students in university residences. To the extent that low-income students live elsewhere, the survey underestimates the portion of incoming students from low- and modest-income backgrounds. Unfortunately, the samples of the 1996 and 1998 surveys are highly dominated by on-campus respondents.

Second, the question regarding parental income has changed. Before 1994, the parental income question did not allow respondents to indicate that they did not know the income levels of their parents. To the best of our ability, we have transformed the data to deal with this issue, but our transformation techniques are based on arbitrary assumptions that may not hold.

Lastly, we have assumed that the classification of low income is fixed in nominal terms (\$40,000) and is assumed to be relevant for the complete 10-year period 1986 to 1996. Because this period was characterized by high wage inflation, however, it's possible that we should have adopted a low-income category that changed over time.

The ASQ was administered to all new students admitted to Guelph in 1993 and 1996 whether or not they actually enrolled. For the 1996 questionnaire, the response rate was 56 per cent and the number of respondents was 3,895.

The research team would like to acknowledge the assistance of Brian Pettigrew and Ann Hollings in providing the data files and establishing the qualitative in-course component of the research. We would also like to thank the Office of Institutional Analysis and Planning (IAP) for providing us with the results of its independent analysis of spatial aspects of applicants contained in the ASQ. Finally, we thank Herb O'Heron at the Association of Universities and Colleges of Canada for providing some comparative data.

6. The Analysis

The analysis is based mainly on existing data. The qualitative information provided by students (see Appendix 2) is new.

Based on the incoming student survey, the analysis first examines changes to the standard social background characteristics (socio-economic and visible minority status, mother tongue, citizenship and gender) of our students over a 10-year period (1986/87 to 1996) and compares these with the appropriate percentages for the Ontario population. For example, the survey asks students to indicate their parents' highest level of education and gross income. The social backgrounds of our students are compared with the social backgrounds of the general Ontario population old enough to have students entering university, i.e., aged 45 to 64. How many of our students come from low-education or low-income backgrounds compared with the general Ontario population and has this changed over the last 10 years? Are students entering U of G more or less representative of the general population?

Second, the analysis investigates the question: "If there are changes in the social background composition of our students over time, i.e., reduced accessibility, to what extent can these changes be attributed to increases in tuition and other costs of attendance?" Parental and OSAP support and worries about financing university education are examined for the earliest (1992) and the latest year (1997) for which we had electronic files, according to students' family backgrounds.

We then investigate the same two major questions using a different secondary data source, the ASQ conducted in 1993 and 1996. First, the social composition question is addressed. Next, differences in the importance of total costs, aid and net costs for all admitted students are examined by parental income level. The ASQ also permits a comparison of students who were admitted to Guelph and did not enrol with those who did. The importance of gross and net cost factors in the decisions of low-income registrants and non-registrants is explored.

Finally, the analysis compares the social background of Guelph students with the social background of students at some other universities and reviews the national trend concerning social class and university education.

7. Findings

Incoming student survey results

Based on the incoming student survey data, it appears that on some background characteristics — race

or colour, mother tongue, citizenship — our students have overwhelmingly and historically come from white, English- or French-speaking, Canadian backgrounds. Despite some improvements over the time period, because we had so few visible-minority, non-English/French-speaking or non-Canadian students to begin with, in 1996 (latest mini-census year), we were not near the percentages of these groups in the Ontario population. For example, the University needed three times the percentage of non-Canadian students in the incoming student survey to approximate the percentage of non-Canadians in the 1996 Ontario population. (See Figure 7.1 and Tables 7.1 to 7.3.)

Males represent 51 per cent of the Ontario population between the ages of 18 and 24. In 1987, 41 per cent of U of G students surveyed as incoming students were male, compared with 30 per cent of entering students in 1997 (Figure 7.2 and Table 7.4). (Hard-copy tabulations in 1987 exist only for percentage of males and females and separately for the age distribution of entering students. But 96.5 per cent of students entering in 1987 were between 18 and 24, and in 1989, there were no substantial age/gender differences.)

Although the data have their shortcomings with respect to the income backgrounds of new students, we observe that fewer students over time have come from modest socio-economic status backgrounds. This finding holds regardless of whether father's education, mother's education or parental income is used as the background measure.

For example, in 1986/87, 56 per cent of Ontario males aged 45 to 64 had a high school education or less, but 52 per cent of incoming Guelph students had fathers with a high school education or less. In other words, at that time, students from a low-education family (based on father's education) were only under-represented by four per cent. Because educational attainment levels in the general population increased over time, by 1996, 50 per cent of Ontario males aged 45 to 64 had a high school education or less, but far fewer Guelph students, 31 per cent, had fathers with this formal education profile. That is, by 1996, the under-representation of students from a low-education family background based on father's education increased to 19 per cent (Figure 7.3 and Table 7.5).

Similarly, based on mother's education, the under-representation of students from low-education family backgrounds increased from 13 per cent in 1986/87 to 28 per cent just 10 years later. In 1996, the percentage of students from low-education backgrounds (based on mother's education) was about half the percentage in the Ontario population (Figure 7.4, Table 7.6).

The percentage of students from low-income families is compared with the Ontario population in Figure 7.5 and Table 7.7. In this analysis, the criterion for low versus high income was maintained at a constant dollar value over the 10-year period. The comparison shows a seven-per-cent under-representation of the low-income group in 1996. We caution that the 1996 data probably underestimate the propor-

tion of low-income students. Nevertheless, it would appear that our student population in the 1990s had fewer low-income students than were observed in the 1980s.

Consequently, regardless of how family socio-economic background is measured, the socio-economic composition of entering students diverged even further from the class composition of Ontario families between 1986 and 1997.

How do levels of financial support available to students from family and OSAP compare with family incomes? First, given the different resources of high- and low-socio-economic families, it's not surprising that many more low SES students received no financial support from their parents to cover their educational costs and many fewer received more than \$3,000 compared with high SES students. In 1992, 27 per cent of students from a low-income background received no support from their parents, compared with only 11 per cent of students from higher-income families. On the other hand, 28 per cent of low-income students compared with 59 per cent of high-income students received more than \$3,000.

But what's especially interesting, given tuition and other cost increases between 1992 and 1997, is that while more higher SES students received more than \$3,000 in 1997, not many low SES students did (based on two of the three SES background indicators (Figure 7.6 and Tables 7.8 to 7.10). In 1997, 69 per cent of students from high-income families received more than \$3,000 in support from their parents to cover their educational costs, compared with only 29 per cent of students from low-income families (Figure 7.6).

It's also not surprising that many more students from modest social backgrounds received OSAP support than did other students, and that between 1992 and 1997, more students from both high and low SES groups were receiving OSAP. In 1992, 23 per cent of low-income students and five per cent of high-income students received OSAP, compared with 52 per cent and 14 per cent respectively in 1997 (Figure 7.7 and Tables 7.11 to 7.14).

Student concerns or worries about financing their education also vary by their social class background. Although more students in 1997 than in 1992 had major concerns, the proportional increases in low- and high-income groups were similar. For example, 27 per cent of low-income students, compared with 12 per cent of higher-income students, had major concerns about financing their education in 1992. In 1997, 39 per cent and 16 per cent respectively had major worries about educational financing (Figure 7.8 and Tables 7.15 to 7.17).

But these low-income students actually made it to Guelph. The real accessibility issue is the extent to which lack of money deters potential students from low-income backgrounds from attending U of G. Some information about this is available from the ASQ.

ASQ Results

Some of the findings on the social background of students admitted to the University are consistent with

the incoming student survey results. It's important to note that the gap between the percentage of students from low-income backgrounds and the percentage of low-income families in the Ontario population is much smaller than is observed for the incoming student survey.

The results of our analyses appear in Tables 7.19 to 7.35. Where appropriate, we have presented some supplementary results provided to us by IAP. This independent research controlled for the "home" region of admitted students, parental income and the institution chosen by the student. The IAP sample is slightly different from ours; out-of-province admitted students were eliminated.

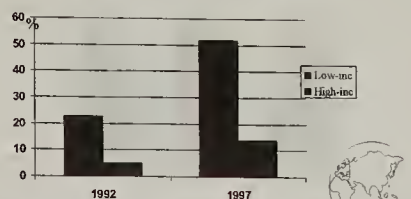
Visible-minority, male and low-income students are under-represented compared with their population (Tables 7.19 to 7.21). (Mother tongue, citizenship and parents' education level were not asked on the ASQ.) Because the ASQ can distinguish registrants or admitted students who enrolled at Guelph from non-registrants, we can obtain some idea of the kinds of students we are attracting and not attracting. Between 1993 and 1996, we gained a few more males, visible minorities and low-income students. In fact, the percentage of students from low-income backgrounds is equal to the percentage of low-income families old enough to have students entering university in the Ontario population. But more of those students who didn't come to Guelph (non-registrants) were visible-minority students (12 per cent in 1993 and 14 per cent in 1996) than were those who did (eight per cent in 1993 and nine per cent in 1996) (Tables 7.22 to 7.24).

Previous analyses of the admitted student data (Student Study Group, ASQ, January 1997) reveal that the net cost of attendance is a very important factor in students' choice of university. When asked to rate U of G on a number of characteristics, the one among many that students rated as only "fair/poor" or "good" was the net cost of attendance. But the IAP analysis demonstrates that the rating by students of Guelph's costs depends on the availability of a local university in their "home" region.

Overall, more non-registrants have an image of Guelph as "expensive." More non-registrants than registrants also said that aid or cost was a significant factor in their enrolment decision. For students who said that aid or cost was significant, 33 per cent enrolled. For students who indicated that aid or cost was not a significant factor, 43 per cent enrolled. In other words, Guelph's yield is much better for students who don't need financial support or are not concerned about attendance costs. Controlling for whether or not students applied for financial aid at Guelph moderates the differences between registrants and non-registrants for aid applicants, but accentuates the differences for students who did not apply for financial aid.

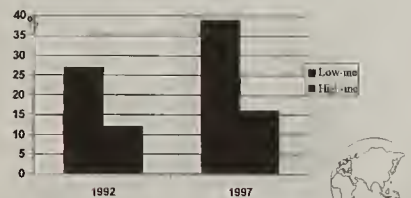
Admitted students were also asked to rate Guelph net costs on an eight-point scale. When these ratings are combined with whether or not aid/costs represent a significant or non-significant factor in students' decisions to enrol, the yield percentages systematically decline (56 per

Fig 7.7: Per Cent of Entering Students at the University of Guelph who Received OSAP by Parental Income*



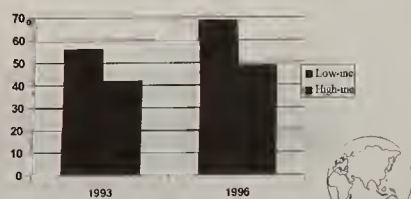
*"Low-income" = under \$40,000; "High-income" = \$40,000 or over
Source: Guelph Incoming Student Survey

Fig 7.8: Per Cent of Entering Students at the University of Guelph who had "Major" Concerns about Financing their Education by Parental Income*



*"Low-income" = under \$40,000; "High-income" = \$40,000 or over
Source: Guelph Incoming Student Survey

Fig 7.9 Per Cent of Students Admitted to the University of Guelph who Rated Net Cost as "Very Important" By Parental Income*



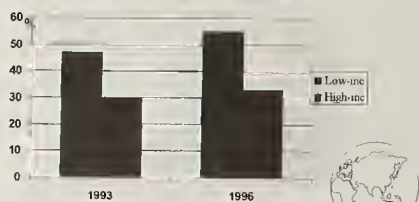
*"Low-income" = under \$40,000; "High-income" = \$40,000 or over
Source: Guelph Admitted Student Questionnaire

Fig 7.10: Per Cent of Students Admitted to the University of Guelph who Identified "Expensive" as a Widely-Held Image of the University of Guelph By Parental Income*



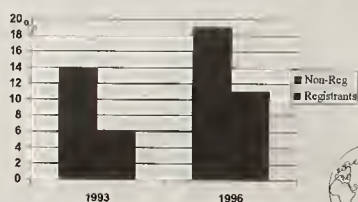
*"Low-income" = under \$40,000; "High-income" = \$40,000 or over
Source: Guelph Admitted Student Questionnaire

Fig 7.11. Per Cent of Students Admitted to the University of Guelph who Reported that either "Aid" or "Cost" was a Significant Factor in their Decision to Enroll in University by Parental Income*



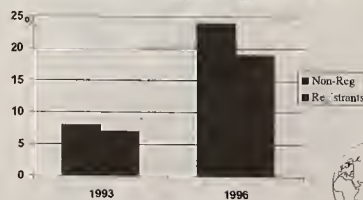
*"Low-income" = under \$40,000, "High-income" = \$40,000 or over
Source: Guelph Admitted Student Questionnaire

Fig 7.12. Per Cent of Students from Low-Income Backgrounds* Admitted to the University of Guelph who Rated Net Costs as "Poor/Fair" By Registration Status



*"Low-income" refers to parental income of less than \$40,000
Source: Guelph Admitted Student Questionnaire

Fig 7.13. Per Cent of Students from Low-Income Backgrounds* Admitted to the University of Guelph who Identified "Expensive" as a Widely-Held Image of the University of Guelph By Registration Status



*"Low-income" refers to parental income of less than \$40,000
Source: Guelph Admitted Student Questionnaire

Fig 7.14. Per Cent of Students from Low-Income Backgrounds* Admitted to the University of Guelph who Cited "Lower Cost" as Reason for Attending University of 1st Choice



*"Low-income" refers to parental income of less than \$40,000
Source: Guelph Admitted Student Questionnaire

cent to 25 per cent) as cost ratings increase, when aid/costs are significant, and systematically improve (33 per cent to 49 per cent) as cost ratings increase, when aid/costs are not significant. Put another way, higher attendance costs reduce the chance that students will enrol at U of G if aid/costs are important to them.

Most admitted students (82 per cent) plan to attend their first-choice university. But three and a half times more non-registrants (seven per cent) than registrants (two per cent) said that was because the costs of attending were lower. If a non-first-choice university was chosen, about twice as many non-registrants (25 per cent) as registrants (13 per cent) indicated that was on account of lower attendance costs. Any way you look at it, costs seem to matter.

A slightly more qualified story unfolds from IAP's results. Based on question 30 of the ASQ, IAP notes that 60 per cent of all respondents saw no difference between the cost of studying at Guelph and the cost of studying at another Ontario institution. Without fail, however, respondents viewed the cost of study at a university in their "home" region to be cheaper than studying at Guelph. This was particularly true for students from the Metro Toronto area. Sixty-three per cent of students from regions that did not have a local university viewed U of G as being less expensive than other Ontario universities. Hence, the attraction to Guelph in terms of the cost of study depends on the home region coupled with the availability of a local university in that region.

A key issue is what happens when registration status and income background are combined. How did low-income students who did not enrol at Guelph differ from those who did enrol? Although the differences are not statistically significant, slightly more low-income registrants than non-registrants in 1993 felt that net attendance cost was a very important factor in their decision to attend.

In 1996, however, slightly more low-income non-registrants than registrants felt this way (Table 7.30). More important, in 1993 and 1996, there are statistically significant differences between low-income students who did not and did enrol at Guelph concerning their evaluation of our net costs. In 1996, low-income non-registrants (19 per cent) to a greater extent than registrants (11 per cent) indicated that Guelph costs were poor or fair (Figure 7.12 and Table 7.31). Similarly, in 1996, more low-income non-registrants than registrants had an image of Guelph as "expensive" (Figure 7.13 and Table 7.32).

In both 1993 and 1996, more low-income students who did not enrol here than those who did stated that financial aid or cost was a significant factor in their decision (Table 7.34). Almost four times as many low-income non-registrants as registrants indicated that "lower cost" was a reason for attending the first-choice institution, and almost three times as many non-registrants said it was a reason for not attending their first-choice university (Figures 7.14 and 7.15 and Table 7.35).

Again, the IAP analysis indicates that this overall perception of low-income non-registrants is dominated by individuals who are able to register at a local institution in their home region. For low-income candidates from home regions that did not have a local university, the majority of them perceived Guelph to be less expensive than other universities, with the exception of universities in northern Ontario.

Overall, it appears that some students from low-income backgrounds are negatively influenced in their enrolment decision by costs at the University of Guelph.

Systemic Changes in Accessibility and Guelph's Relative Position

Based on a number of national data sources, it appears that accessibility to post-secondary and university education for students from modest backgrounds has eroded in Canada over the past decade. Patrice de Broucker and Kristen Underwood of Statistics Canada, using the international adult literacy survey and reporting in the *Education Quarterly Review* (1998, 5:2) indicate that, despite rising education levels generally in Canada, there is "an increased polarization of educational opportunities due mainly to the greater difficulty for those with less-educated parents to rise to post-secondary achievements." Similarly, de Broucker and Underwood conclude that "among people whose parents do not have a high school diploma, achievement of post-secondary education has become less common for the younger cohort (26 to 35) than for the older one (46 to 55). While the disadvantage of having lesser-educated parents has increased with the younger cohort, the advantage of having better-educated parents has remained the same for both cohorts."

In other words, accessibility to post-secondary education has lessened for students from low-education backgrounds, but not for students from higher-education backgrounds.

Results from StatsCan's general social survey tell a similar story. There is a widening gap in the university participation rate among different SES groups. The difference in the university participation rate among SES groups in 1986 and 1994 was especially evident for the lowest and middle SES families. The university participation rate improved greatly for middle-class families (it was already very high for higher SES families), but less so for lower SES families, consequently widening the gap between the two groups.

Results from StatsCan's national graduate survey are consistent with those indicated above; fewer university graduates over time come from low-education backgrounds than that expected from the percentage of low-education individuals in the general population.

It is possible, subject to the caveats below, to also compare student backgrounds at Guelph with student backgrounds at a limited number of other Ontario universities and with individuals in the general Ontario population. The incoming student survey was administered at a number of universities in addition to Guelph (Nipissing, Western, Ottawa, Brock,

Laurentian, King's College and 12 colleges/programs at the University of Toronto in 1994; Nipissing, King's College, Lakehead and 12 colleges/programs at the University of Toronto in 1995). Comparing U of G incoming first-year students with other first-year students at these institutions in 1994 and 1995 (one-shot, not over-time comparisons) reveals that Guelph consistently had many fewer students from visible minority, non-English/French-speaking and non-Canadian backgrounds than the other Ontario universities did. While Guelph had fewer students from these groups than their proportions in the general Ontario population, the other universities at which the incoming student survey was completed had many more visible-minority and non-English/French-speaking students and the same percentage of non-Canadian citizens as expected, based on the general population (Tables 7.36 to 7.38).

Concerning the social class composition, U of G had fewer students from modest backgrounds than the other universities did, regardless of how "modest" was measured (father's or mother's education or parental income), and the other universities had fewer students from modest educational backgrounds than they should have, based on the proportions of individuals with low education in the general Ontario population (Figures 7.16 and 7.17 and Tables 7.39 to 7.41). In 1994, 36 per cent of Guelph students participating in the incoming student survey had mothers with low education, compared with 49 per cent for students at the other universities participating in the survey and compared with 60 per cent of the Ontario adult female population having low education (Table 7.40). The respective percentages based on father's education are: Guelph, 33 per cent; other Ontario universities, 43 per cent; Ontario males aged 45 to 64 with high school or less education, 50 per cent (Figure 7.16 and Table 7.39). U of G also has fewer students with family income backgrounds of less than \$40,000 (15 per cent in 1994 and 18 per cent in 1995) compared with the other Ontario universities (25 per cent in 1994 and 27 per cent in 1995). The other Ontario universities are, in fact, representative of the general population on the income dimension (Figure 7.17 and Table 7.41).

There are, however, two cautions that must be reiterated to be borne in mind when interpreting these figures. First, the list of universities used in the comparison does not include other institutions that are primarily residential and are therefore inherently higher-cost. Most of the universities for which we have survey data have large commuter populations drawn from their local area. Second, the incoming student survey at Guelph is administered primarily to students in residence and would not capture those low-income students who might find it less expensive to live off-campus.

It is also possible to compare student backgrounds at Guelph with those at the 19 institutions across Canada who participated in the 1998 survey of first-year university

students co-ordinated by the Department of Housing and Student Life at the University of Manitoba (Acadia, Brandon, Carleton, Concordia, Dalhousie, Laurentian, McMaster, Memorial, Nipissing, Queen's, Ryerson, Simon Fraser, St. Francis Xavier, British Columbia, Lethbridge, Manitoba, Ottawa, Waterloo and Wilfrid Laurier). Twenty-seven per cent of incoming Guelph students had fathers with low education and 30 per cent had mothers with low education (Table 7.5 and 7.6), compared with 40 per cent and 46 per cent on average at those Canadian universities and compared with 50 per cent and 60 per cent for the Canadian population. (Data provided by Herb O'Heron of AUCC, based on a 1998 survey of first-year university students.) Again, it is important to note that universities in large urban areas are bound to attract larger proportions of students from low-income backgrounds who need to minimize the costs of attending university.

8. Discussion/ Interpretation

It is clear that:

- Over a 10-year period, Guelph's incoming student survey indicates that the social and economic backgrounds of first-year students have changed. Relatively more students from higher-educated and affluent families chose admission to Guelph than those from lower-educated and low-income backgrounds.
- Two ASQs indicated that the cost of attendance is an important determinant for low-income applicants who have the choice of attending a local university in deciding to accept Guelph's offer of admission. The costs of attendance appear to influence the choice of the institution at which students eventually register. But there may be other, non-financial matters that students also consider.
- Students who come from regions without a local university view the cost of attending Guelph to be equal or lower than the costs elsewhere.
- Compared with the somewhat selected sample of Ontario universities in 1994 and 1995, Guelph has proportionately fewer students from families with incomes less than \$40,000 and lower-education backgrounds.

This evidence leads us to the observation that the University became less accessible to students from modest family backgrounds over the last 10 years. It is less clear whether tuition alone, as opposed to overall costs, is the causal factor concerning the decline in accessibility. Tuition is a highly visible cost, yet Guelph's tuition increases over the period were lower than those of other institutions. For residential institutions such as Guelph, however, tuition is not the only cost factor to be considered. We note that the decline in attendance of students from modest socio-economic backgrounds between 1996 and 1998 appears to be less than that for previous periods. We can speculate that Guelph's large increase in mainly needs-based student assistance may have influenced this lessening of the decline in attendance of students from modest backgrounds. Since 1990, the University's total budget for student support has

risen from \$1.7 million to \$10 million and the amount applied to needs-based assistance has risen from \$0.2 million to \$5.4 million. This increase in U of G financial support for students is far in excess of inflation and tuition increases.

It is reasonable to wonder if Ontario and Canadian universities overall have become much less accessible to students from modest social backgrounds than in the past. Given employment and income uncertainties, tuition and other cost increases, and large student debt loads, it would not be surprising if potential students from low SES backgrounds made other educational choices. Although the comparative data do not permit a rigorous over-time assessment, there is some evidence of erosion in accessibility for low socio-economic status families. A good working hypothesis would be that over the past 10 years, there has been a general, but not dramatic, decline in accessibility in Ontario and Canada. A subsidiary proposition for investigation is that over the past five years, Quebec and British Columbia experienced little or no decline in accessibility.

Although U of G may be less attractive to some university-bound low-income students, it's important to stress Guelph's relative position in the Ontario university system. Guelph is a residential university and draws the vast majority of its undergraduate students from communities beyond its local area, many of which have local universities as an alternative. The overall net costs of attending U of G have always been important considerations for our potential students because many of them have the option of studying at other post-secondary institutions closer to their homes. Serious reductions in government funding have necessitated tuition increases at all Ontario universities.

As a result, students have been confronted with higher financial constraints and higher debt loads that may prevent them from attending the university of their choice or university at all. Students from low-income families whose parents cannot provide supplementary financial assistance are particularly at risk, as are students living in communities that do not have a post-secondary institution. Our results for Guelph may be indicative of a generalized accessibility problem throughout Ontario, although universities such as U of G are especially vulnerable, because of their residential nature and higher attendance costs, in their ability to attract students from low-income backgrounds.

The University of Guelph, however, has made considerable efforts to maintain its competitive edge and to ensure accessibility to its programs for all Ontario citizens. Guelph has increased its tuition fees less than most universities have, has not deregulated fees for any of its undergraduate programs, has lowered fees for visa undergraduate students and has kept graduate fee increases in the last two years below the rate of inflation. At the same time, Guelph has minimized cost increases for residence and meal plans and has significantly increased its financial assistance to students, particularly in the area of needs-based assistance. The positive effects of recent addi-

tional financial assistance on increased accessibility for low-income students may yet be observed. Guelph is also becoming a vanguard in open learning in Ontario and, as a result, may be able to provide broader accessibility by appealing to a more highly diverse clientele throughout the province.

Two obvious disadvantages appear when students are forced to choose a university on the basis of attendance costs. First, student options are more limited (what if there is no university close to home?). Second, institutions become more socially homogeneous and class-based. This is contrary to U of G's strategic plan, which emphasizes accessibility and recognizes the benefits of having students from diverse social backgrounds interacting and exchanging ideas.

9. Conclusions and Suggestions for Further Research

It is a strong demonstration of public accountability that we care enough to investigate this issue. But our institution by itself and with its current resources cannot resolve the accessibility problem. The information in this necessarily limited study provides the University and educational policy-makers with compelling evidence of the negative implications that public disinvestment in post-secondary education has for accessibility. COU and the Ministry of Training, Colleges and Universities might be encouraged to undertake a system-wide research project that would thoroughly investigate the trends and determinants of accessibility to post-secondary education and make policy recommendations as warranted. Such a study should examine the choices students are making at the high school level, well before they are part of a self-selected group of university attendees. It should also be broad enough to investigate accessibility for non-traditional life-time learners as well as the financial ability of students to continue their studies as attendance costs increase.

Although we have not been able to establish a direct causal relationship between increased tuition fees and reduced accessibility to Guelph, our findings make it clear that the composition of U of G's enrolment is more sensitive to overall attendance cost increases than is enrolment at universities located in major urban centres. Our findings also suggest that the effect of increased costs on enrolment composition may have been mitigated by increases in needs-based financial aid. Guelph's experience should demonstrate to the government the importance of reinvestment in universities in general and a rethinking of student financial assistance policies in particular.

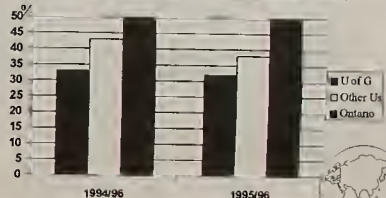
The issue of tuition fee increases in response to severe public funding cuts represents the proverbial rock/hard place dilemma between accessibility and the need to sustain the quality of university education. Restoring public funding to the post-secondary sector is essential, and we need to do all we can to communicate results like those found in this report to the general public and to the public servants who have responsibility for resolving the issue.

Fig 7.15: Per Cent of Students from Low-Income Backgrounds* Admitted to the University of Guelph who Cited "Lower Cost" as Reason for Attending University which is Not 1st Choice



*"Low-income" refers to parental income of less than \$40,000
Source: Guelph Admitted Student Questionnaire

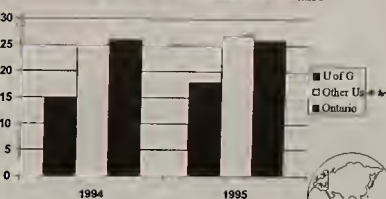
Fig 7.16: Per Cent of Students from Low-Education Backgrounds* Entering the University of Guelph Compared to those Entering other Ontario Universities and the Per Cent of those with Low Education in Ontario



*Based on father's education, high school or less
Source: Guelph Incoming Student Survey, 1994 and 1995; 1996 census, Statistics Canada (Ontario males aged 45-64 with high school educ'n or less)

** Other U's includes: Nipissing, Western, Ottawa, Brock, Laurentian, King's College and 12 Colleges/Programs at the University of Toronto in 1994; Nipissing, King's college, Lakehead, and 12 colleges/programs at the University of Toronto in 1995.

Fig 7.17: Per Cent of Students from Low-Income Backgrounds* Entering the University of Guelph Compared to those Entering other Ontario Universities and the Per Cent of Low-Income Families in Ontario



*"Low-income" refers to yearly income of less than \$40,000
Source: Guelph Incoming Student Survey, 1994 and 1995; 1994 and 1995 General Social Survey, Statistics Canada (families with age of head 45-64 with yearly income of less than \$40,000)

** Other U's includes: Nipissing, Western, Ottawa, Brock, Laurentian, King's College and 12 Colleges/Programs at the University of Toronto in 1994; Nipissing, King's college, Lakehead, and 12 colleges/programs at the University of Toronto in 1995.

Appendix 1

Affordability and Accessibility of University Education

*INDICATES CROSS-TABULATIONS SIGNIFICANT AT P<.05 USING CHI SQUARE

Table 7.1: Per Cent of Visible Minority Students (number) Entering the University of Guelph Compared to Per Cent of Visible Minorities in Ontario

	91/92	96	98
U. Guelph	7 (84)	10 (98)	11
Ontario	11 (1.1)	16 (1.7)	

Guelph data unavailable before 1992; Guelph N for 1998 unavailable; Most recent (1998) figure for Guelph shown, corresponding Ontario figure unavailable; Source: Guelph Incoming Student Survey, 1992, 1996 and 1998, 1991 and 1996 census, Statistics Canada (Ontario numbers in millions)

Table 7.2: Per Cent of Entering Students (number) whose Mother Tongue is neither English nor French at the University of Guelph Compared to Per Cent of Ontario Residents whose Mother Tongue is neither English nor French

	86/87	91/92	96	98
U. Guelph	4	5 (56)	9 (88)	5
Ontario	11 (83.8)	18 (131.7)	18 (251.5)	

Guelph Ns not available for 1987 and 1998; Guelph data unavailable for 1986 and 1991; Most recent (1998) figure for Guelph shown, corresponding Ontario figure unavailable; Source: Guelph Incoming Student Survey, 1987, 1992, 1996 and 1998, 1986, 1991 and 1996 census, Statistics Canada (Ontario numbers in thousands)

Table 7.3: Per Cent of Entering Students (number) at the University of Guelph who are not Canadian Citizens Compared to Per Cent of Ontario Residents who are not Canadian Citizens

	86/87	91/92	96	97
U. Guelph	4	4 (44)	3 (26)	3
Ontario	6 (370.2)	9 (865.7)	9 (948.4)	

Guelph Ns unavailable for 1987 and 1997; Guelph data unavailable for 1986 and 1991; Most recent (1997) figure for Guelph shown, corresponding Ontario figure unavailable; Source: Guelph Incoming Student Survey, 1987, 1992, 1996 and 1997, 1986, 1991 and 1996 census, Statistics Canada (Ontario numbers in thousands)

Table 7.4: Per Cent of Male Students (number) Entering the University of Guelph Compared to Per Cent of Ontario Males aged 18-24

	87	92	96	97
U. Guelph	41	29 (349)	30 (309)	30
Ontario	51 (543)	51 (514.8)	51 (530.5)	51

Guelph Ns not available for 1987 and 1997; Source: Guelph Incoming Student Survey, 1987, 1992, 1996 and 1997, 1987 and 1992 Postcensal Annual Estimates of Population, Statistics Canada, 1996 and 1997 Annual Demographic Statistics, Statistics Canada (Ontario numbers in thousands)

Table 7.5: Per Cent of Students (number) from Low-Education Backgrounds** Entering the University of Guelph Compared to Per Cent of Ontario Residents with Low Education

	86/87	91/92	96	98
U. Guelph	52	38 (457)	31 (312)	27
Ontario	56 (502.8)	57 (365.2)	50 (366.7)	

**Based on father's education, high school or less
Guelph Ns unavailable for 1987 and 1998; Guelph data unavailable for 1986 and 1991; Most recent (1998) figure for Guelph shown, corresponding Ontario figure unavailable; Source: Guelph Incoming Student Survey, 1987, 1992, 1996 and 1998, 1986, 1991 and 1996 census, Statistics Canada (Ontario males aged 45-64 with high school education or less) (Ontario numbers in thousands)

Table 7.6: Per Cent of Students (number) from Low-Education Backgrounds** Entering the University of Guelph Compared to Per Cent of Ontario Residents with Low Education

	86/87	91/92	96	98
U. Guelph	54	40 (430)	32 (330)	30
Ontario	67 (619)	69 (693.4)	60 (701.3)	

**Based on mother's education, high school or less
Guelph Ns unavailable for 1987 and 1998; Guelph data unavailable for 1986 and 1991; Most recent (1998) figure for Guelph shown, corresponding Ontario figure unavailable; Source: Guelph Incoming Student Survey, 1987, 1992, 1996 and 1998, 1986, 1991 and 1996 census, Statistics Canada (Ontario females aged 45-64 with high school education or less) (Ontario numbers in thousands)

Table 7.7: Per Cent of Students (number) from Low-Income Backgrounds** Entering the University of Guelph Compared to Per Cent of Low-Income Families in Ontario

	87	92	96	98
U. Guelph	40	27 (285)	16 (152)	16
Ontario	33 (295.6)	24 (229.9)	23 (265.3)	

***Low-income** refers to parental income of less than \$40,000
Guelph Ns unavailable for 1987 and 1998; Most recent (1998) figure for Guelph shown, corresponding Ontario figure unavailable; Source: Guelph Incoming Student Survey, 1987, 1992, 1996 and 1998; General Social Survey, 1987, 1992 and 1996, Statistics Canada (Ontario families with age of head 45-64 with income of less than \$40,000) (Ontario numbers in thousands)

Table 7.8: Per Cent of Students (number) Receiving Amount of Support from Parents By Parental Income

	1992*		1997*	
	<\$40,000	\$40,000+	<\$40,000	\$40,000+
none	27 (78)	11 (89)	29 (49)	10 (87)
<\$3,000	45 (128)	30 (233)	43 (73)	21 (182)
\$3,000->	28 (79)	59 (460)	29 (49)	69 (595)

Source: Guelph Incoming Student Survey

Table 7.9: Per Cent of Students (*number*) Receiving Amount of Support from Parents By Father's Education

	1992*		1997*	
	HS	Univ	HS	Univ
none	23 (105)	11 (53)	20 (67)	17 (53)
<\$3,000	33 (150)	32 (154)	35 (115)	20 (61)
\$3,000>	44 (202)	57 (274)	45 (151)	64 (199)

Source: Guelph Incoming Student Survey

Table 7.15: Per Cent of Guelph Students (*number*) Concerned about Financing Education By Parental Income

	1992*		1997*	
	<\$40,000	\$40,000+	<\$40,000	\$40,000+
none	12 (33)	29 (226)	8 (13)	27 (232)
some	61 (175)	59 (464)	53 (91)	57 (490)
major	27 (77)	12 (92)	39 (67)	16 (140)

Source: Guelph Incoming Student Survey

Table 7.10: Per Cent of Students (*number*) Receiving Amount of Support from Parents By Mother's Education

	1992*		1997*	
	HS	Univ	HS	Univ
none	22 (103)	9 (34)	19 (61)	20 (39)
<\$3,000	36 (173)	32 (119)	29 (96)	17 (33)
\$3,000>	43 (204)	58 (215)	52 (171)	63 (123)

Source: Guelph Incoming Student Survey

Table 7.16: Per Cent of Guelph Students' (*number*) Concerned about Financing Education By Father's Education

	1992*		1997*	
	HS	Univ	HS	Univ
none	20 (92)	29 (138)	19 (63)	29 (83)
some	61 (278)	61 (295)	54 (179)	55 (159)
major	19 (86)	10 (50)	27 (91)	16 (46)

Source: Guelph Incoming Student Survey

Table 7.11: Per Cent of Guelph Students (*number*) Receiving OSAP By Parental Income

	<\$40,000	\$40,000+
1992*	23 (66)	5 (42)
1997*	52 (89)	14 (123)

Source: Guelph Incoming Student Survey

Table 7.17: Per Cent of Guelph Students' (*number*) Concerned about Financing Education By Mother's Education

	1992*		1997*	
	HS	Univ	HS	Univ
none	22 (104)	29 (108)	19 (61)	31 (53)
some	58 (279)	62 (228)	58 (189)	53 (90)
major	20 (97)	9 (32)	24 (78)	15 (26)

Source: Guelph Incoming Student Survey

Table 7.12: Per Cent of Guelph Students (*number*) Receiving OSAP By Father's Education

	HS	Univ
1992*	15 (69)	5 (23)
1997*	33 (109)	13 (40)

Source: Guelph Incoming Student Survey

Table 7.18: Per Cent of Guelph Low-Income Students** (*number*) Concerned about Financing Education By Gender

	1992*		1997*	
	Female	Male	Female	Male
none	10 (20)	13 (9)	19 (82)	32 (73)
some	59 (116)	70 (51)	58 (254)	51 (117)
major	31 (62)	17 (12)	24 (105)	17 (40)

Low-income refers to parental income of less than \$40,000

Source: Guelph Incoming Student Survey

Table 7.13: Per Cent of Guelph Students (*number*) Receiving OSAP By Mother's Education

	HS	Univ
1992*	14 (63)	4 (15)
1997*	28 (93)	7 (14)

Source: Guelph Incoming Student Survey

Table 7.19: Per Cent of Visible Minority Students (*number*) Admitted to the University of Guelph Compared to Per Cent of Visible Minorities in Ontario

	91/93	96
Admit @ G	10 (336)	12 (783)
Ontario	11 (1.1)	16 (1.7)

Guelph data unavailable for 1991: Source: Admitted Student Questionnaire, 1993 and 1996, 1991 and 1996 census, Statistics Canada (Ontario numbers in millions)

Table 7.14: Per Cent of Guelph Low-Income Students** (*number*) Receiving OSAP By Gender

	Female	Male
1992*	26 (52)	13 (9)
1997	23 (103)	21 (48)

Low-income refers to parental income of less than \$40,000

Source: Guelph Incoming Student Survey

Table 7.20: Per Cent of Male Students (*number*) Admitted to the University of Guelph Compared to the Per Cent of Ontario Males aged 18-24

	93	96
Admit @ G	28 (1488)	29 (2010)
Ontario	51 (549.6)	51 (530.5)

Source: Admitted Student Questionnaire, 1993 and 1996, 1993 and 1996 Annual Demographic Statistics, Statistics Canada (Ontario numbers in thousands)

Table 7.21: Per Cent of Students (number) from Low-Income Backgrounds Admitted to the University of Guelph Compared to Per Cent of Low-Income Families in Ontario**

	93	96
Admit @ G	22 (958)	21 (1185)
Ontario	25 (257.2)	23 (265.3)

Low-income refers to parental income of less than \$40,000
Source: Guelph Admitted Student Questionnaire, 1993 and 1996; 1993 and 1996 General Social Survey, Statistics Canada (Ontario families with age of head 45-64 with income of less than \$40,000) (Ontario numbers in thousands)

Table 7.22: Per Cent of Male Students Admitted to the University of Guelph By Registration Status

	Registrant	non-Regist
1993	27 (705)	29 (783)
1996	30 (938)	28 (1072)

Source: Admitted Student Questionnaire

Table 7.23: Per Cent of Visible Minority Students Admitted to the University of Guelph By Registration Status

	Registrant	non-Regist
1993	8 (215)	12 (321)
1996	9 (261)	14 (522)

Source: Admitted Student Questionnaire

Table 7.24: Per Cent of Students from Low-Income Backgrounds Admitted to the University of Guelph By Registration Status**

	Registrant	non-Regist
1993	22 (462)	22 (496)
1996	22 (566)	20 (619)

Low-income refers to parental income of less than \$40,000
Source: Admitted Student Questionnaire

Table 7.25: Per Cent of Students (number) Admitted to the University of Guelph who Rated Net Cost of Attendance as "Very Important"* By Parental Income**

	< \$40,000	\$40,000+
1993*	56 (334)	42 (1426)
1996*	69 (814)	49 (2195)

**Question: In choosing the university that you will attend, how important is the net cost of attendance; how much you and your family would have to pay after financial aid (if any) is applied to total university costs; Source: Admitted Student Questionnaire

Table 7.26: Per Cent of Students (number) Admitted to the University of Guelph who Rated Net Cost of Attendance as "Poor/Fair"* By Parental Income**

	< \$40,000	\$40,000+
1993	10 (83)	8 (231)
1996	15 (146)	13 (496)

**Question: Rate Guelph's net cost of attendance - how much you and your family would have to pay after financial aid (if any) is applied to total university costs; Source: Admitted Student Questionnaire

Table 7.27: Per Cent of Students (number) Admitted to the University of Guelph who Rated Net Cost of Attendance as "Very High"* By Parental Income**

	< \$40,000	\$40,000+
1993	9 (79)	11 (324)
1996	16 (173)	17 (675)

**Question: "After subtracting financial aid offers, if any, please rate the cost of attending each university" on a scale from 1-8, from "Very Low" (1) to "Very High" (8); Source: Admitted Student Questionnaire

Table 7.28: Per Cent of Students (number) Admitted to the University of Guelph who Identified "Expensive"* as a Widely-Held Image of Guelph By Parental Income**

	< \$40,000	\$40,000+
1993	7 (71)	7 (244)
1996*	22 (256)	16 (697)

**Question: Students were asked to identify "expensive" as one of "the most widely-held images" of the University of Guelph. Source: Admitted Student Questionnaire

Table 7.29: Per Cent of Students (number) Admitted to the University of Guelph who Reported that either "Aid" or "Cost" was a Significant Factor in their Decision to Enrol in University By Parental Income**

	< \$40,000	\$40,000+
1993*	47 (433)	30 (972)
1996*	55 (637)	33 (1413)

**Question: "Was either financial aid or the cost of attending a significant factor in your decision to enrol in the university you plan to attend?"; Source: Admitted Student Questionnaire

Table 7.30: Per Cent of Students (number) from Low-Income Backgrounds Admitted to the University of Guelph who Rated Net Cost of Attendance as "Very Important"*** By Registration Status**

	Registrant	non-Regist
1993	57 (261)	55 (273)
1996	67 (378)	71 (436)

Low-income refers to parental income of less than \$40,000
**Question: In choosing the university that you will attend, how important is the net cost of attendance; how much you and your family would have to pay after financial aid (if any) is applied to total university costs; Source: Admitted Student Questionnaire

Table 7.31: Per Cent of Students (number) from Low-Income Backgrounds** Admitted to the University of Guelph who Rated Net Cost of Attendance as "Poor/Fair"*** By Registration Status

	Registrant	non-Regist
1993*	6 (25)	14 (58)
1996*	11 (52)	19 (94)

**"Low-income" refers to parental income of less than \$40,000

***Question: Please rate Guelph on cost of attendance, i.e. how much you and your family would have to pay after financial aid (if any) is applied to total university costs; Source: Admitted Student Questionnaire

Table 7.32: Per Cent of Students (number) from Low-Income Backgrounds** Admitted to the University of Guelph who Identified "Expensive"*** as a Widely-Held Image of Guelph By Registration Status

	Registrant	non-Regist
1993	7 (32)	8 (39)
1996*	19 (108)	24 (148)

**"Low-income" refers to parental income of less than \$40,000

***Question: Students were asked to identify "the most widely-held images" of the University of Guelph; Source: Admitted Student Questionnaire

Table 7.33: Per Cent of Students (number) from Low-Income Backgrounds** Admitted to the University of Guelph who Rated Net Cost of Attendance as "Very High"*** By Registration Status

	Registrant	non-Regist
1993*	7 (29)	12 (50)
1996	14 (75)	17 (98)

**"Low-income" refers to parental income of less than \$40,000

***Question: "After subtracting financial aid offers, if any, please rate the cost of attending each university" on a scale from 1-8, from "Very Low" (1) to "Very High" (8); Source: Admitted Student Questionnaire

Table 7.34: Per Cent of Students (number) from Low-Income Backgrounds** Admitted to the University of Guelph who Reported Either "Aid" or "Cost" was a Significant Factor in their Decision to Enrol in University*** By Registration Status

	Registrant	non-Regist
1993*	44 (193)	51 (240)
1996*	51 (282)	58 (355)

**"Low-income" refers to parental income of less than \$40,000

***Question: "Was either financial aid or the cost of attending a significant factor in your decision to enrol in our university?"; Source: Admitted Student Questionnaire

Table 7.35: Per Cent of Students (number) from Low-Income Backgrounds** Admitted to the University of Guelph who Cited "Lower Cost" as Reason for Attending University

	First Choice:		Not First Choice:	
	Registrant	non-Regist	Registrant	non-Regist
1996*	3 (16)	11 (55)	12 (16)	33 (52)

**"Low-income" refers to parental income of less than \$40,000

"First Choice" = Of those planning to attend university of first choice, proportion who chose university because "cost of attending is lower"; "Not First Choice" = Of those planning to attend a university that was not their first choice, those who responded felt the most important reason was, "cost of attending is lower"; no data for 1993; Source: Admitted Student Questionnaire

Table 7.36: Per Cent of Visible Minority Students (number) Entering the University of Guelph Compared to those Entering Other Ontario Universities and Per Cent of Minorities in Ontario

	94/96	95/96
U. of Guelph	8 (94)	9 (94)
Other Universities**	33 (2237)	42 (1839)
Ontario	16 (1.7)	16 (1.7)

Data only available for 1994 and 1995; Source: Incoming Student Survey 1994 and 1995; 1996 census, Statistics Canada (Ontario numbers in millions)

Table 7.37: Per Cent of Students (number) Entering the University of Guelph whose Mother Tongue is neither English or French Compared to those Entering Other Ontario Universities and Per Cent of Ontario Residents whose Mother Tongue is neither English nor French

	94/96	95/96
U. of Guelph	7 (87)	9 (93)
Other Universities**	29 (1795)	32 (1273)
Ontario	18 (251.5)	18 (251.5)

Data only available for 1994 and 1995; Source: Incoming Student Survey 1994 and 1995; 1996 census, Statistics Canada (Ontario numbers in thousands)

** Other U's include: Nipissing, Western, Ottawa, Brock, Laurentian, King's College and 12 Colleges/Programs at the University of Toronto in 1994; Nipissing, King's college, Lakehead, and 12 colleges/programs at the University of Toronto in 1995.

Table 7.38: Per Cent of Entering Students (number) at the University of Guelph who are not Canadian Citizens Compared to those Entering Other Ontario Universities and Per Cent of Ontario Residents who are not Canadian Citizens

	94/96	95/96
U. of Guelph	3 (32)	3 (34)
Other Universities*	10 (641)	9 (348)
Ontario	9 (948.4)	9 (948.4)

Data only available for 1994 and 1995; Source: Incoming Student Survey 1994 and 1995; 1996 census, Statistics Canada (Ontario numbers in thousands)

Table 7.39: Per Cent of Students from Low-Education Backgrounds** Entering the University of Guelph Compared to Per Cent of Low-Education Students Entering Other Ontario Universities and Per Cent of Ontario Residents with Low Education

	94/96	95/96
U. of Guelph	33 (385)	32 (336)
Other Universities*	43 (2509)	38 (1464)
Ontario	50 (566.7)	50 (566.7)

**Based on father's education, high school or less

Data only available for 1994 and 1995; Source: Incoming Student Survey 1994 and 1995; 1996 census, Statistics Canada (Ontario males aged 45-64 with high school education or less) (Ontario numbers in thousands)

* Other U's include: Nipissing, Western, Ottawa, Brock, Laurentian, King's College and 12 Colleges/Programs at the University of Toronto in 1994; Nipissing, King's college, Lakehead, and 12 colleges/programs at the University of Toronto in 1995.

Table 7.40: Per Cent of Students from Low-Education Backgrounds** Entering the University of Guelph Compared to Per Cent of Low-Education Students Entering Other Ontario Universities and Per Cent of Ontario Residents with Low Education

	94/96	95/96
U. of Guelph	36 (424)	34 (358)
Other Universities*	49 (2902)	46 (1780)
Ontario	60 (701.3)	60 (701.3)

**Based on mother's education, high school or less

Data only available for 1994 and 1995; Source: Incoming Student Survey 1994 and 1995; 1996 census, Statistics Canada (Ontario females aged 45-64 with high school education or less) (Ontario numbers in thousands)

Table 7.41: Per Cent of Students from Low-Income Backgrounds** Entering the University of Guelph Compared to Per Cent of Low-Income Students Entering Other Ontario Universities and Per Cent of Low-Income Families in Ontario

	94	95
U. of Guelph	15 (183)	18 (189)
Other Universities*	25 (1466)	27 (1026)
Ontario	26 (279.1)	26 (286.4)

**"Low-income" refers to parental income of less than \$40,000

Data only available for 1994 and 1995; Source: Incoming Student Survey; General Social Survey 1994 and 1995, Statistics Canada (Ontario families with age of head 45-64 with income of less than \$40,000) (Ontario numbers in thousands)

* Other U's include: Nipissing, Western, Ottawa, Brock, Laurentian, King's College and 12 Colleges/Programs at the University of Toronto in 1994; Nipissing, King's college, Lakehead, and 12 colleges/programs at the University of Toronto in 1995.

Appendix 2: In-Depth Interview Comments

AS NOTED IN SECTION 3, Senate had set a two-part task — to look at the impact of tuition fee increases on students already enrolled and to assess possible effects on accessibility for students from low-income backgrounds. Our report has focused on the latter question, primarily because there was readily accessible data we could analyse. We did do some preliminary work on assessing the impact of fee increases on enrolled students through in-depth interviews with a small group of students.

Selected students were informed by letter about the purpose of the accessibility and affordability study. Six students volunteered for personal in-depth interviews on their educational experiences in light of their financial resources and support. Students who needed financial support told us they could not rely on their families for funds and, if it were not for the Ontario Student Assistance Program, they would not be at university.

The total cost of attending university was unknown at the time of entering or slightly higher than expected, but students adjusted in a number of ways. They bought or were given used books, were frugal and selective about what they ate and how they spent money, and worked part time.

The students indicated that they would prefer to pay for their university education by work and savings, not by borrowing money, but the latter was regarded as a necessity. Students worried and were mentally stressed over how they were going to repay their debt loads. Those who worked part time indicated that working negatively affected their academic performance, but there was no option.

The anonymous comments below illustrate, in their own words, how these students feel about financial pressures, attendance costs and coping strategies and adjustments they have had to make.

Plans about financing their education:
"It's every parent's dream to send their kids to university, and my parents can't fulfill it."

"I knew I couldn't rely on that crutch — Mom's not giving me money."

"I don't make enough in the summer to finance the entire year, so I definitely rely on OSAP. I need full OSAP to go to school."

"I got a scholarship from U of T and I still didn't go, and I could have lived at home and commuted to school, which would have saved a lot. It would have been a lot easier to

stay at home, but I wanted to go to Guelph, so I didn't really factor finances into my decision. . . . I completely rely on OSAP. I just assume that I will have money to pay for school."

"If I didn't get OSAP, I couldn't go to school."

"Overall, scholarships and bursaries are bloody hard to get."

"This is not fair. If they're encouraging a university education, why are they increasing these fees? It limits so many students. If I didn't take a year off, there's no way I could come here."

"I need full OSAP to go to school."

"When you're away at school, you don't make enough in the summer to pay for school, and if people do, I'd like to know how they do it."

Expectations of university life and associated costs:

"I didn't really know how much things were going to cost."

"Someone gave me used books, which helped a lot."

"There's no way I can afford these insane prices for textbooks."

"I was expecting it to cost a lot. . . . I think generally university costs more than I was expecting. . . . \$10,000 is the number that everyone has in their head to go to university and live away from home. I didn't think realistically about it. I knew there was that \$10,000, but I didn't really think about it, and all of a sudden, you get a bill for \$4,000. I don't think I thought about it too realistically until I actually wrote the cheque. . . . I just assumed I would get OSAP. In high school, I really didn't think about the whole have-to-pay-it-back thing."

"Books were more expensive, but I was kind of prepared. I have an older sister who went to university, so I had an idea that a textbook could cost \$100."

"Basically, I've been scrimping and saving."

"When I got here, all the prices went up."

"Somehow I covered it all, and I have chump change left."

Food, shelter, clothing or other expenditure adjustments:

"Even with food, I find myself being very selective."

"Oh yeah, I'd eat more fruits and vegetables."

"I wish I had more meal plan points. . . . I'm moving off campus next year, partly to save money."

"I didn't realize that the meal plan was only for first semester."

"I'm always trying to save a buck here and there, like clipping coupons for things."

"I've always been a penny

pincher; it's the same now."

"Towards the end of the year, I have to be careful about what I spend. Starting around February or so, I have to make sure I have enough money to pay the phone bill."

Employment/work adjustments:

"There's tons of stuff I wish I could be doing if I didn't have to work."

"I'm afraid I'm not going to get the amount I need in OSAP or the scholarships, and I will be forced sometime in second year to get a part-time job."

"Money sucks. There's certain things that I have to push myself to do. If it means flipping burgers, obviously I don't have a choice. . . . I really wish I didn't have to work. Knowing that you don't have a choice makes it even worse. . . . it's another stress in life"

"Government jobs are great because they're in my field, but they only pay minimum wage, which won't fund university tuition. I'd like to get some experience, but I have to think about paying for school."

"I thought about getting a part-time job this year for extra money."

(If she could have done things differently), "I would have got a part-time job during the year to build up some money to pay back my student loan."

Feelings about debt:

"It really scares me. It's another stress factor and insecurity I have. I'm not really thinking about it now because I'm in first year, but when I'm in third or fourth and graduating with a debt the price of two cars, it really scares me that I have a debt to pay with money I don't have."

"I know it's going to get a whole lot worse before I can get out, but there's no way I can do without it. . . . It would have been nice if I had more money starting out; I wouldn't have to borrow as much."

"I knew I wanted to be here; there was no other way around it."

"At first, I didn't want to apply for OSAP, but why should I let my temporary financial situation hold me back from what I can do?"

"Tuition is rising, but OSAP isn't at all. . . . I have an enormous student loan to pay off when I graduate. I have this hanging over my head that I have a \$25,000 loan to pay off. It's not very reassuring to be starting out with a huge loan to pay off. I think about it more now because I'm going into my last year, and I have to think about how I'm going to pay it off."

"I worry about how to pay it all back."

"Money is a stepping stone that

can be borrowed."

Physical, social or emotional adjustments:

"I have to sit here worrying about next year. I can't spend \$20 this semester when I know it might be the difference for next semester. . . . I hardly go out. . . . that probably hurts, too. I go for walks on campus, free stuff. . . . You feel like you're constantly mooching off friends. . . . It affects you in more ways than you realize."

"Will I have enough? Will I be OK, just in case something happens at home, that I can get a train home?"

"It all comes down to money. Any activity — how much is it going to cost me?"

"There's a lot of simple things you'd like to do or go out and buy to make things easier, like an extra set of sheets or more socks."

"Instead of going to the mall, we go for a walk through the Arboretum instead."

"I know I can't buy anything until I start work in the summer."

"I don't think I cut back that much. I mean, I have cable, I make long-distance calls. I don't think I'm particularly good at financing money. I could save a lot more if I tried."

Stress caused by finances:

"You don't sleep, you keep thinking you should be working."

"It's always in my head in some shape or form, no matter where you go. . . . That's a big stress in my life, the stress about money. That shouldn't even be a factor for students, but it's only getting worse."

"It's an underlying stress that's always there. It's a real burden, and it's really worrisome to have to worry about money all the time. I would have had a much more relaxing year if I didn't have to worry about money. . . . The things you have to do to really save can really get you down sometimes."

"Things seem to be going OK, but it's constantly a burden because I can't rely on my parents for anything."

"How much I have at the start of the year has to last the entire year."

"I just accept the fact that I need OSAP to go to university, so I don't let it worry me all that much."

Impact of finances on academic performance:

"No matter how many students say that having a job doesn't affect your homework, it does. Whether they want to admit it or not. . . . I would come straight from high school if I could. I really had to struggle. My marks reflect that."

"Working has definitely put a

crunch on schoolwork."

"You can't concentrate on school."

"I've been thinking about grad school, and that would be where my financial situation comes into play, because I already have such a big loan. I don't know how high I want it to get. If I did go to grad school, I would have to live at home and go to York or U of T because I can't — I don't want to — keep accumulating loans. That's where money plays more of a factor, grad school. After I get a degree, I don't know if I'd be so willing to just keep getting OSAP to continue my studies."

"I can't really afford to pay to take this summer course I'm taking, but I'm doing it anyway."

Feelings about the cost of university:

"You feel like you're getting robbed. Tuition for sure is way too high. It makes you wonder where the money's going."

"If I don't get OSAP, I can't come back. And that makes me really upset. And I'm not the only one. There are so many students out there who have the potential to do so many things. Because of this big restriction of financial support, it doesn't even give them the chance. . . . I don't understand why B. C. has a tuition freeze — why can't we have that here?"

"At the rate of how expensive it is to come here, if I could afford it, I would study all through the summers to get out of here quicker."

Advice for potential university students/other comments:

"Get as good a job as you can, work as many hours as you can."

"Get a job, a good-paying job."

"Start saving early, bring up your marks and apply for scholarships."

"Try and save up as much money as you can. Try not to borrow as much from OSAP. . . . If you can get the money to come here, that's half the battle. The marks are nothing compared to getting the money together."

"They don't realize how much money they need until they have to come up front and pay it."

"Do as much to pay for it yourself. It would be a lot better if people could pay for it themselves, so they don't have that extra worry of a loan when they graduate."

"Buy used books. First semester, they suck you in. Because it's your first time, you go there and think you're getting deals."

"If there's any way that this interview convinces the upper people here at this university what a hell situation it is for students to have this financial situation, then I don't mind at all."

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A MODEL DEBATER

Fourth-year student selected to participate at World Model United Nations Conference in Greece

BY ANDREW VOWLES

FOURTH-YEAR international development student Donna Kollee recalls the ice-breaker question she asked her new student when she began a tutoring assignment last fall: "Is prison life like what you see on TV?" She laughs as she relates the prompt reply of her student, an inmate at the Guelph Correctional Centre who is working on his high school diploma: "Is university life like what you see on TV?"

In working to narrow the gap between those disparate worlds, Kollee was able to draw not only on the skills she's developed as a peer tutor at U of G, but also on negotiating smarts from seven years spent taking part in model United Nations forums as a high school and university student.

It's also that experience that has led to her selection as one of six Canadian students to attend this year's World Model United Nations (MUN) Conference. The simulated UN gathering organized by Harvard University brings together international students to learn about global issues and negotiations.

She will travel to Greece at the end of March to take part in the five-day event. In Athens, hundreds of university students will debate global issues from anti-terrorism to climate control. Representing Ethiopia, Kollee will attend one of 11 committees charged with negotiating various agreements.

"I love it," she says. "Part of me absolutely loves negotiation."

As a high school student in St. Catharines, Kollee participated for three years in annual MUN conferences involving students from throughout the Niagara Peninsula and Hamilton. Simulating UN forums such as the General Assembly and Security Council, with students appointed to represent various countries, these gatherings are intended to help participants learn about global issues and hone their negotiating and debating skills.

The annual events grew out of model town hall meetings organized by a Niagara teacher and municipal councillor during the mid-1980s. Those initial gatherings saw students assume the roles of municipal politicians and staff. Making the jump to the world stage, model UN clubs from the area have competed at Harvard and in New York since the late 1980s.

Along with fellow university students, Kollee now helps organize the Niagara-area annual conferences and other events



under the umbrella of the Council on World Affairs of Canada (COWAC), a non-profit organization based in Niagara-on-the-Lake.

"Donna has exhibited incredible energy, enthusiasm, leadership and volunteerism in assisting our organization for many years to help Canadian students to become more aware of world issues," says COWAC executive officer Mike Keenan. "She is regularly one of the most popular and respected staffers at our MUN conference. She is a natural teacher with outstanding communication skills."

Growing up in Grimsby as the eldest of three girls, Kollee sharpened at least some of those communication and debating skills around the dinner table. Both her parents have always shared their interests in human rights and development with their children. "There is no one in the field, but my family all

have strong opinions," she says.

The Guelph student also points to her mother as a role model. Irene, a nurse, returned to university to complete a science degree while her children were still pre-teens.

It was more by accident than design that Donna chose Guelph for studies in international development with an emphasis on political development and administrative change. "I was skipping class in high school and went to a University of Guelph presentation, and I saw that they had international development. That's exactly what I want to do. For a long time, I thought about English or journalism, but I saw this and everything changed."

She says she loves both the campus and her program, particularly the close contact she enjoys with professors in her relatively small classes. She's been involved in various University activities and organizations, including the campus SafeWalk program and the Hospitality Services Advisory Committee, and served as assistant editor for a residence newspaper. In her second year, she was vice-president of Johnston Hall, following a first-year stint as floor representative.

Particularly interested in human rights and environmental issues, Kollee plans to work in international development, perhaps beginning with a research internship abroad. Another possible route is law school.

"The ultimate dream, of course, is to work for the UN," she says, adding that she might pursue women's issues, health and development in Africa or Asia. "I love it here, but I think if I'm going to make a difference, I have to leave Canada."

It's the need to make a difference that has spurred her involvement in activities on and off campus, including her weekly visits to the correctional centre. That experience has proven an eye-opener, compared with tutoring high school students, who generally suffered few problems with self-esteem and self-confidence.

Her student at the correctional centre is "more appreciative because someone is taking an interest in him," she says, explaining how she persisted beyond that initial loaded question to draw out her student and help dispel nervousness on both sides. "It makes you feel good, you know?"

Honduran Farmers Move Towards Self-Sufficiency

U of G, Central American research teams collaborate to improve hillside farming

IMPOVERISHED Honduran farmers are learning how to manage experiments that test promising agricultural technologies on challenging hillside lands, with expertise from U of G.

A participatory research project led by Prof. Sally Humphries, Sociology and Anthropology, is working with these farmers to gain access to contemporary agricultural technologies that best suit their ecological, economic and social needs. The result? Higher crop yields, community empowerment and a chance at self-sufficiency.

"Central American farmers are faced with managing extremely complex environmental conditions," says Humphries. "They don't

have sufficient access to the support necessary to cope, and we're trying to address that."

Humphries initiated the project more than five years ago as part of a larger-scale project overseen by her former employer, the International Centre for Tropical Agriculture. When she came to Guelph in 1994, the project came with her.

The goals were to work with the Honduran farmers to find solutions to hillside agricultural problems such as low crop yields and high erosion rates, and to teach farmers — who are often illiterate and extremely poor — how to carry out experimental trials.

The trials were geared towards selecting crop varieties and explor-

ing soil conservation methods that would improve the value of production.

To meet these goals, she recruited three agronomists from Honduras. Together, they approached local communities and formed research teams made up of small-scale farmers. The teams, consisting of men and women, then went on to diagnose agricultural problems specific to their community. They found the main concern was the low yield of their staple foods, maize and beans.

The agronomists worked with the teams and taught them how to run experimental trials to test different varieties and soil conservation techniques. Humphries says farmers

are now competent in managing split plot trials to select technologies that best fit their own criteria for taste, yield and general adaptability to their particular environment. The intent is to be able to grow more food on less land so as not to degrade the land any further, she says. At annual meetings, representatives from each of the 30 teams report their progress.

"It's the method of teaching that makes this so unique," says Humphries. "Instead of information coming from the top down and researchers handing over crops they think will work, the farmers are involved in selecting crop varieties that meet their social and ecological needs. It's very empowering."

Humphries says the success of the project is clearly shown through the sharing of information among communities and in the consciousness developed around the role they play in bettering their environment.

This phase of the project is now coming to a close, but there is hope that the project's success and support will continue, says Humphries. A group of outstanding farmers have been selected and are being trained as para-technical farmers to continue supporting the research teams, she says.

This research is sponsored by the International Development Research Centre.

BY MARIANNE CLARK
OFFICE OF RESEARCH

Learning Opportunities Program Earns High Marks

Course promotes personal growth, learning and advocacy for students with learning disabilities

U OF G STUDENT Malcolm McLeod admits he wasn't too thrilled about having to take a first-semester course to help him deal with his learning disability.

"I thought it would be a remedial course," he says, "but it ended up being very helpful. Talking and learning about my disability made it easier to cope, and I learned new strategies for dealing with my learning problems."

McLeod was among the inaugural group of 48 students who enrolled in U of G's Learning Opportunities Program (LOP) in the fall of 1999. Funded through a grant from the learning opportunities task force of the Ontario Ministry of Training, Colleges and Universities, the program was initiated by Carol Herriot and Bruno Mancini of the Centre for Students with Disabilities (CDS) to ease students' transition from high school to university; enhance their ability to understand, accept and cope with their learning disability; and foster their academic, social and workplace success.

LOP's network of support beyond the regular services of CSD includes assistance with the application and admission process, including granting admission to some students who don't meet the normal requirements; individual-

ized learning plans; a tailored orientation; specially assigned advisers; a career education component; and faculty involvement.

It also includes a new credit course, "Learning Disabilities: Experience to Understanding," taught by Prof. Mary Ann Evans, Psychology. Evans says she created the course "from scratch" to provide a substantive academic component while promoting personal growth, learning and advocacy.

The challenges included finding appropriate materials and readings and deciding how to best realize LOP's goals, says Evans. She opted against exams or grades.

"I didn't want the students' success to be driven by marks. I wanted success driven by the students learning about themselves and understanding their disability from a theoretical, research and experiential perspective."

McLeod says he left the classroom feeling he was part of the university experience. "When you have a learning disability, you have to work twice as hard as everyone else. It was nice to know that there are other students around that you can talk to about it, that you aren't the only person in the world with a learning disability."

Mancini says this kind of student response, coupled with the academic

success of the inaugural class, has those overseeing the LOP program "feeling good" at the conclusion of its first semester.

"We've always provided excellent services to our students, but this became an opportunity to provide additional unique services," he says. "Some of the students were admitted under a modified admission process and they held their own academically. That was very important."

He recently completed a report summarizing the inaugural LOP semester. Among its findings:

- All 48 students were academically eligible to continue at the end of the semester.
- LOP students experienced a drop in grades no greater than that of the average first-semester U of G student.
- 90 per cent of the students in Evans's course said it was beneficial. Eleven of 12 students who originally were negative towards the experience ended up feeling positive about the course.

Evans says she was pleased with the student evaluations. "It was a challenging class to teach, but also very rewarding. You really do see the students developing and growing. They emerge from it with a sense of ownership and self-direction, a better sense of what they can do and

what they need to do. That was terrific in my mind."

Also included in the LOP was a plan to carefully involve faculty in better understanding the needs of students with learning disabilities and developing teaching methods to work with them more effectively.

As part of the process, Teaching Support Services (TSS) developed a range of unique educational materials for faculty teaching courses to students with learning disabilities and conducted a survey of faculty and teaching assistants to determine their level of support for students with learning disabilities. The findings were distributed last fall and will be incorporated into a handbook for faculty and teaching assistants, says TSS director Prof. Julia Christensen Hughes.

"Another component we were completely thrilled with was the course enhancement projects," she says. "We identified courses where students in the LOP project were likely to end up and approached the faculty to see if they were interested in taking part."

For example, Prof. Peter Goddard, History, developed a course guide titled "A Student's Guide to Discovery" to go along with his course "Europe in the Age of Expansion," one of the largest first-year

classes taught in his department. Geared toward students with learning disabilities, the guide included supplemental readings, course information and information about course-specific skill development. He also provided a grade book that allowed students to monitor their progress against the class average and a conferencing system for students to share ideas, resources and projects.

"The net effect of this was that it produced in a large class the intimacy of conversation that students take for granted in a small class," says Goddard. "My principal motive was making the classroom a more accessible learning experience that is less intimidating for students with special needs and that ultimately benefits all students."

Other faculty taking part in the course enhancement projects were Profs. Bob Balahura, Chemistry and Biochemistry; May Aung, Consumer Studies; and Ajay Heble, Literatures and Performance Studies in English.

Given the experience with the LOP to date, the program will continue in the next academic year with a new cohort of students and continuing evaluation of the program's impact under the guidance of Prof. Karen Korabik, Psychology.

BY LORI BONA HUNT

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Valerie Poulton

Correction

In the Jan. 19 issue of *@Guelph*, the article about the "Visionary Seminar 2000" sponsored by the Office for Partnership for Advanced Skills incorrectly identified Royal Bank chair and CEO John Cleghorn as chair of Wilfrid Laurier University's Board of Governors. He is, in fact, chancellor of the university.

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Breaking Out of the Mould

Fungal ecologist explores heretical idea that 'super-species' hold key to biodiversity

PROF. JOHN KLIRONOMOS isn't necessarily looking to relocate his office from the Department of Botany wing of the Axelrod Building. But based on some scientists' current remodelling of the tree of life, perhaps this fungal ecologist belongs across the hall in the zoology wing.

Klironomos can get as passionate as the next mycologist about a current debate over whether mushrooms and bread moulds are closer relatives of plants or of animals. But what's more important to him — and to his research here at Guelph — is demonstrating the significance of fungi in the world's ecosystems.

In a project he began when he arrived at Guelph in 1996, Klironomos is studying another heretical idea about fungi. He's interested in the role of these organisms in maintaining biodiversity, a growing concern for many scientists observing the continued loss of species of plants and animals worldwide.

Most researchers believe a more diverse ecosystem is better equipped to survive a drastic ecological upset that might decimate a region with fewer different kinds of plants and animals. They argue that an ecosystem with a greater variety of species enjoys greater stability simply as a matter of course.

But some researchers believe it's not mere numbers of species that count but the presence of a single "super-species" or an organism that is extremely well-adapted to its environment. As long as this species survives, goes the argument, many others might be lost without wiping out the entire ecosystem.

Although most ecologists have examined this theory among animals, Klironomos was especially in-



Experiments by Prof. John Klironomos have shown that fungal diversity is key to a stable ecosystem. PHOTO BY DEAN PALMER/THE SCENARIO

terested in studying how fungi fit into the picture. He already knew they play a vital role in breaking down organic material, thus making nutrients available to plants for photosynthesis. "That's what makes the world go around," he says.

His controlled experiments in U of G's Arboretum — growing fungi in tubs representing small ecosystems — have shown that fungal diversity is key to a stable ecosystem. "As the diversity of fungi increases, you also increase the diversity of plants and the productivity of the ecosystem," he says. "Nutrient cy-

cling is more efficient in high fungal-diversity systems. High-diversity systems were, in fact, more than the sum of their parts."

He adds, however, that it's still unclear whether that stability results from the more-than-the-sum-of-their-parts argument or from the fact that, statistically, a more diverse system is more likely to contain that "super-species."

The answer might help people trying to restore or conserve various habitats such as old fields, one of his pet interests. Klironomos says conservationists and scientists might get

more mileage by focusing their efforts on restoring a single linchpin species, which might often turn out to be a particular species of fungus.

Like the organisms themselves, the field of mycology has remained mostly buried, despite the astonishing diversity that drew Klironomos to study this kingdom of living things in the first place. "Fungi had all these forms, this morphological diversity," he says, adding that it's that breadth that partly explains the ubiquity of mushrooms, moulds and their allies. "You're always breathing fungal spores no matter where you are around the Earth."

He says working in a relatively untapped field has its benefits, including the fact that there's still lots to learn. Perhaps the most startling new idea is that earlier notion that fungi are more closely related to animals than to plants. Based on recent genetic studies, scientists now suggest that more than one billion years ago, green plants were already going their own evolutionary way before fungi and animals reached their fork in the road.

It's no surprise to Klironomos that fungi are often lumped with plants in the popular imagination — and even in the academic hierarchy. Just try looking at a mould or a mushroom without thinking of algae or larger plants.

But if you're a mushroom, it's what's underground — or inside that rotting log or other substrate — that counts, particularly the hyphae or root-like strands through which the organism absorbs its food. Unlike plants, fungi contain no cellulose or chlorophyll. And unlike bacteria, they have organelles or defined cellular structures.

Still, there's no denying that fungi and plants lead intertwined

lives. Most perennial plants, including those in your garden, have a common-law relationship with fungi. Under this partnership, called a mycorrhiza, fungi help plants absorb water and nutrients, while the fungus obtains food and protection from the plant.

That kind of partnership might even have been the key when aquatic plants first emerged on land some 500 million years ago. Without well-developed root systems, early plants probably relied on fungi to gain a purchase on stony ground.

"Fossil records show that mycorrhizas existed when plants came on to land," says Klironomos. Even today, fungi are still tolerant of extreme conditions. "There isn't a place where there are no fungi."

He discovered fungi for himself while studying zoology at Montreal's Concordia University. He'd been thinking about becoming a physician or optometrist — until he took his first ecology course. Recalling the near-evangelical fervour of his instructor, he says: "That's what changed it all. If he had been teaching neurophysiology, I would have become a neurophysiologist myself."

After finishing his PhD at the University of Waterloo and completing a post-doctorate in desert fungi in California, he joined U of G in 1996.

What's his favourite fungus? He finally settles on *Armillaria bulbosa*, which might be considered the iceberg of fungi. In one recently discovered example, innocuous-looking mushrooms growing over an area of several square kilometres were found to be the fruiting bodies of a single massive organism estimated to be heavier than a blue whale.

BY ANDREW VOWLES



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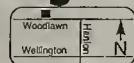
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Guelph Posts Application Gains for Fall

More than 4,000 applicants make Guelph their first choice

APPPLICATIONS TO U of G are up again this year, according to figures recently released by the Ontario Universities' Application Centre (OUAC).

The February "snapshot" of applications to universities across the province shows Guelph posted a 2.4-per-cent increase from 1999. U of G also saw a slight gain in first-choice applications, with more than 4,000 applicants making Guelph their institution of first choice for the coming academic year.

"Although our increase is modest, it's good news because it continues our trend of strong quality applications over the last few years, reaching a steady-state level as planned," says Prof. Alastair Summerlee, associate vice-president (academic).

"Students come to Guelph be-

cause we are a learner-centred, research-intensive university with a first-class academic program and a strong residential environment. Each year, we recruit outstanding students who choose Guelph for its programs, faculty and caring atmosphere, factors that lead to a significant proportion of our students staying and succeeding."

Summerlee notes that Guelph has met its strategic enrolment targets since 1995. "Over that period, we have increased our first-choice applications by 16.4 per cent and our total first-, second- and third-choice applications by 15.4 per cent. These numbers are roughly three times the system-wide average of 5.3 per cent gains in first-choice applications and five per cent in total applications."

Guelph wasn't the only Ontario

university to see gains in application numbers. Province-wide, university applications are up 6.6 per cent this year, according to OUAC.

Summerlee says the growing number of applicants to universities should give government a clear message.

"Graduating high school students and their parents realize the value of a university education and are voting with their feet. Applications to Guelph and other universities are up because prospective students realize the value to their lives and career of a university education. Despite this increase in application numbers, however, Guelph will be maintaining its admission target numbers at about the same level as last year. This is because, in order to maintain our quality, we simply cannot afford to

take in all the students who are qualified and would like to enrol at Guelph."

Because of years of public disinvestment in higher education, Guelph and other universities face a crisis, says Summerlee.

"We cannot accommodate the increased demand for university places brought on by changing demographics without a significant multi-year reinvestment in public-sector funding for our universities. Unless the provincial government is able to increase our base operating revenue for the 2000/2001 academic year, our first-year enrolment numbers must remain steady, despite increasing demand for places."

Province-wide, applications to arts, fine art and education programs all saw large jumps this year. Registrar Chuck Cunningham says

that despite reports to the contrary, "prospective students have done their research and know that graduates from the arts and humanities find rewarding jobs and are ideally positioned to lead promising careers." Applications were up 10.5 per cent to arts and 12.6 per cent to fine art and applied arts degree programs.

Counter to expectations, applications to engineering programs province-wide are lower for first-, second- and third-choice applications compared with last year.

"We are confident, however, that our niche programs and the national recognition that we are the most women-friendly engineering school in Canada will convince students to accept a place in engineering at Guelph," says Prof. Lambert Otten, director of the School of Engineering.

BY ALEXANDER WOOLEY

Supercomputer Will Boost Campus Research

New PC-based system will permit faster, more sophisticated calculations

ALL THE POWER of a supercomputer, without the supercomputer price. That's how two U of G professors describe a new PC-based computing system that by spring will enable them to conduct more sophisticated studies of ion channels involved in various human diseases from heart disease to cystic fibrosis.

By studying malfunctioning ion channels, they hope to gain information useful to pharmaceutical companies developing drugs for treating various diseases or to gene doctors aiming to correct underlying hereditary defects.

Prof. Saul Goldman, Chemistry and Biochemistry, and Chris Gray, Physics, say a new supercomputer to be shared with Toronto researchers will enable them to do faster, more sophisticated calculations and simulate more accurately the movement of sodium and potassium ions through channels in cell membranes.

Studying ion channels, particularly malfunctioning channels implicated in various diseases, might help pharmaceutical companies develop

new drugs or even allow scientists to correct the underlying genetic defects.

Both U of G faculty are co-investigators in the Membrane Biology Group based at the University of Toronto, which recently received \$80,000 from the Medical Research Council to set up the PC-based supercomputer in Toronto.

Their current research uses four stand-alone workstations to model the movement of particles through ion channels. They say the new supercomputing cluster will allow them to construct more realistic models and learn more about the workings of these channels.

Consisting of 48 networked PCs, this cluster is a relatively new concept developed at NASA's Goddard Space Flight Centre that provides fast, powerful biocomputing more cheaply than a conventional supercomputer.

"We could buy a prefabricated PC-based supercomputer, but it's about four times more expensive," says Gray.

The cluster will be available to the

Guelph professors and their graduate students over the World Wide Web. Research associate Igor Tolokh is currently testing the system at Guelph using a pair of coupled workstations.

Along with other faculty in the College of Physical and Engineering

Science and the College of Biological Science, Goldman and Gray also belong to a multi-university consortium that has written a funding proposal for support from the Canada Foundation for Innovation for a much larger supercomputing network. That proposal would see re-

searchers at Guelph, McMaster, Western, Windsor and Wilfrid Laurier establish several computer clusters with a total of about 600 workstations designed to provide fast, powerful computing for studies in physical and biological sciences.

BY ANDREW VOWLES

Expert Panel Invites Comments

Continued from page 1

of food-related proteins; Ritter is an expert on pesticide residues in foods, pesticide exposure and cancer, and food additives.

The panel also includes experts in biomedical ethics, human nutrition, allergenic foods, plant biology and genetics, ecology, animal nutrition and molecular genetics. Special adviser is Michael Smith of the University of British Columbia, who received a Nobel Prize in 1993.

The panel will:

- look at potential food products

that are expected to be developed using biotechnology over the next 10 years;

- identify potential risks to human health, animal health and the environment associated with these products;
- examine procedures that assess the safety of foods derived from biotechnology, as well as the scientific capacities required to carry out these assessments and any gaps in scientific understanding that need addressing; and

- identify any new policies or regulations needed for the protection of human health, animal health and the environment in connection with foods.

The Canadian public is invited to send written comments to the panel on issues related to its mandate and objectives by April 30, 2000. Write to: Expert Panel on the Future of Food Biotechnology, c/o Royal Society of Canada, 283 Sparks St., Ottawa, ON K1R 7S3, or fax to 613-991-6996.



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Brother toner TN-300, recently purchased, used to print only 50 copies, leave message at 787-2797 or send e-mail to wfung@uoguelph.ca.

Kenmore built-in dishwasher, 10 years old, in working order, 827-9013.

Skylar velvet sofa and chair, excellent condition, Ext. 2840 or 767-6536.

Handmade wooden clothes dryers (clothes horses), Ext. 6580.

Antique wingback chair, striped velvet cover, 836-3033.

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Care for your dog in my home while you travel, Cobi, 836-8086 or send e-mail to cdeimmers@uoguelph.ca.

One- or two-bedroom accommodation in stone farmhouse in Rockwood, must be willing to perform farm chores (cattle and horses) and general maintenance of land, rent and salary to be negotiated, references required, send e-mail to steph@research.uoguelph.ca.

FOR RENT

Large one-bedroom basement apartment in south-end house, suitable for one person, close to campus and shopping, parking for one vehicle, available April 1, Ext. 2849 or 763-1085.

Large furnished bedroom in south-end house, suitable for two people, close to campus, shopping and bus, non-smoker, no pets, \$550 a month inclusive, Sonia, leave message at 824-1568.

Large bedroom in home shared with two working professionals and two cats for quiet non-smoker with no pets, semi-private facilities, Willow West area, close to bus stop and mall, \$375 a month inclusive, 824-7860.

Bright one-bedroom apartment for summer sublet from May 1 to Aug. 31, close to campus, backs on to park and river, private, pets welcome, laundry, outdoor pool, would suit single or couple, \$450 a month inclusive, 836-8031.

Bachelor apartment with separate entrance on Edinburgh Road, kitchen, three-piece bath, parking, close to campus, non-smoker, no pets, available April 1, lease and references required, \$425 a month inclusive, 837-1847.

WANTED

Cottage in the Parry Sound area, Marlene, Ext. 6552.

One- or two-bedroom apartment, send e-mail to jxh67@psu.edu.

Little Tykes car bed in good condition, Annette, 763-3808 after 5 p.m. or send e-mail to jaudet@uoguelph.ca.

One- or two-bedroom apartment

for April 1, Pauline, 822-6855 or send e-mail to pteal@uoguelph.ca.

Textbook or reference material on teaching yourself shorthand, Ext. 2909.

German shepherd puppy or dog, good with children, Ext. 3438.

Children's bicycle trailer, Carey, 767-0690 or send e-mail to cbergman@uoguelph.ca.

Someone to milk herd of cows on weekends, close to Guelph city limits, 822-3147.

Experienced transcriber for small project involving transcription of two eight-hour videotapes, Ext. 2909.

Used pressed-powder cases with mirrors for crafts, Ext. 2965.

House to share or apartment for full-time female mature student with weekend child, two dogs and a kiln, parking, reasonable rent, long term beginning April 15 or May 1, 763-0533 or send e-mail to camille@albedo.net.

Bolt-on bedrails for twin bed, new or used, Ext. 2910 or send e-mail to hhouse@uoguelph.ca.

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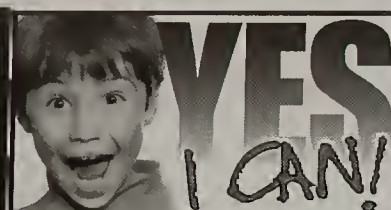
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ARBORETUM

Maple Syrup Days continue every weekend from 10:30 a.m. to 4:30 p.m. until March 26 and daily during the week of March 13. Events include puppet shows, tours of the sugar bush and demonstrations of syrup making. Cost is \$3.50 for adults, \$2.50 for children under 12, \$18 for two adults and six children.

Learn about duck plumage, flight identification, breeding displays and migration at a workshop led by naturalist Chris Earley March 22 from 9 a.m. to 4:30 p.m. at the Arboretum. The workshop includes a field trip to view migrating ducks at Mountsberg Conservation area April 16. Cost is \$63. Payment and registration are required by March 8.

The Arboretum is hosting a bus trip to the Flower and Garden Show at the Metro Toronto Convention Centre March 23 from 9 a.m. to 6 p.m. Cost of \$30 includes bus and show admission. Registration and payment are required by March 15. Call Ext. 4110.

Theatre in the Trees presents the dinner-theatre comedy *Beyond a Joke* by Derek Benfield. Directed by John Snowdon, the play runs Saturdays until April 29. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are \$45 and are available at Ext. 4110.

ART CENTRE

The Macdonald Stewart Art Centre and Red Kite Press of Guelph are sponsoring a series of events focusing on female writers, women's spirituality and women's identities. On March 8, poets Penn Kemp, Colleen Thibadeau and Gloria Alvernaz Mulcahy will speak at 4 p.m. in MacKinnon 120. They will be joined by poet Marianne Micross and jazz musician Bill Gilliam for a performance of *On Our Own Spoke* at 7:30 p.m. at the art centre. On March 15, Alvernaz Mulcahy will speak at 4 p.m. in MacKinnon 120.

CONCERTS

The Thursday noon-hour concert series continues March 2 with Prof. Mary Cyr on viola da gamba and Sandra Mangsen on harpsichord, and March 9 with Boubacar Diabete performing music from the African oral tradition. On March 16, the Eramosa Brass presents works by Dandrieu, Ramsoë, Haydn, Istvánfeld, Bach and Tchaikovsky. The concerts are in MacKinnon 107. Admission is free, but donations are welcome.

The "Music at OVC" series sponsored by the OVC dean's office and the School of Fine Art and Music continues March 7 with violinist David Greenberg and pianist Doug MacPhee presenting "Tunes Until Dawn: Traditional Fiddle and Piano Music of Cape Breton." The free concert begins at 12:30 p.m. in the OVC Cafeteria.

The U of G Orchestra and Jazz Ensemble, conducted by Henry Janzen and Prof. Howard Spring, will perform March 17 at 8 p.m. at the River Run Centre. Tickets are \$15 and \$8 and are available from the River Run box office at 763-3000 and in MacKinnon 210.

LECTURES

Third Age Learning-Guelph's lecture series for retired people concludes March 8 with University professor emeritus Henry Wiseman, Political Science, discussing "The United Nations in the Preservation of Peace and the Management of Conflict" at 10 a.m. and Prof. Ross McKittrick, Economics, on "What Should Canada Do About Global Warming?" at 2 p.m. Lectures are at the Arboretum Centre.

NOTICES

The University Resources Card, a plastic wallet-sized information card currently being distributed on campus by Interhall Council, contains an incorrect extension number for the Sexual Assault Care Centre at the Guelph General Hospital. The correct number is 837-6440, Ext. 2715. People can also call the hospital's main number at 822-5350 and ask for the centre.

Campus Days, U of G's annual information program for high school students and their parents, runs March 15 to 17. For information, call liaison office Laura Beattie at Ext. 6716.

A number of staff development opportunities related to occupational health and safety have openings in March and April. These include the "Role of the Ministry of Labour in Health and Safety" March 21, "Hazard Identification Through Workplace Inspection" March 22, "University Safety Orientation and WHMIS" March 28, "Respirator Training for Supervisors" March 30, "Occupational Health and Safety Act" April 13, "Safe Storing and Dispensing of Combustible and Flammable Liquids" April 26 and "Confined Spaces — Hazards and Controls" April 26. For more information about these courses, visit the Web site www.uoguelph.ca/HR/chs.

Brenda Spitzer, a master's student in the couple and family therapy program, is seeking 100 women aged 20 or older who have completed therapy related to childhood sexual abuse for a research project on women's experiences with therapy, the impact of working with abuse memories, and helpful or unhelpful aspects of therapy. To obtain information or to request a survey questionnaire, call Spitzer at 823-7012 or toll-free at 1-888-236-6625. Inquiries will be treated confidentially.

Retired professors John Bruce, George Todd and Doug Odegard, all artists and all former chairs of the Department of Philosophy, present a

group exhibition of their paintings March 16 to May 15 at the University Club. The show opens with a reception March 16 from 4 to 7 p.m.

Human Resources Development Canada (HRDC) is offering a program of wage subsidy for student jobs running from six to 16 weeks this summer. Applications are available from the Office of Research or on the Web site <http://kitchener.london.hrdchr.gc.ca/programs/SCP/SCP-index.html>. Applications must be signature-approved by the Office of Research by March 7 and postmarked by 4 p.m. March 10.

The Centre for Research in Earth and Space Technology (CRESTech) is offering industrial co-operative research awards that support long-term graduate research. Application deadline is March 31. For an application form, call the CRESTech Regional Office in Waterloo at 519-888-4423, fax to 519-888-4330 or send e-mail to awards-enquiries@crestech.ca.

SEMINARS

The School of Languages and Literatures presents Suzie Suriam of Université de Montréal discussing "Le théâtre africain francophone" March 2 at 1 p.m. in MacKinnon 308.

"Adding Soy for Health" is the topic of dietitian Heidi Smith March 2 at 6 p.m. at the Health and Performance Centre. Cost is \$15. Register at Ext. 3254.

U of G and the University of Waterloo present "Sustainable Rural Livelihoods" March 2 to 4 at Guelph. Sponsored by the International Development Research Centre, it will include four public sessions: "From Poverty to Sustainable Livelihoods" March 2 at 7 p.m. at the OVC Learning Centre; "Sustainable Livelihoods in Canada: The Rural Challenge," March 3 at 9 a.m. at the centre; "Using Complex Dynamic Systems to Design Development Projects Differently," March 3 at 7:30 p.m. in UC 442; and "Applying Complex Adaptive Systems Theory," March 4 at 9 a.m. in the Learning Centre.

The Department of Microbiology's graduate student seminar series presents Anne Paiment explaining the "Expression of Group 1 Capsular Polysaccharides in *E. coli*" March 3 at noon in Food Science 128.

The Department of Chemistry and Biochemistry presents Heather Gordon of Brock University discussing "The Use of the Pivot Algorithm in Monte Carlo Simulations: Flexible Polyelectrolytes to Proteins" March 3 at 3:10 p.m. in Chemistry and Microbiology 261.

Next up in the Department of Economics visiting speakers series is Mary Kelly of Wilfrid Laurier University discussing "Optimal Loss

Mitigation and Contract Design" March 3. "Did Tax Flattening Affect RRSP Contributions?" is the focus of Mike Veall of McMaster University March 10. The seminars begin at 3:30 p.m. in MacKinnon 234.

The School of Languages and Literatures presents Prof. Stephen Henighan discussing "Mad Land, My Land: The Problem of Latin American Identity in Vargas Llosa's *The Green House*" March 3 at 3:30 p.m. in MacKinnon 318.

The Professional Staff Association's financial seminar series continues with a discussion of estate planning March 6 at 12:15 p.m. in UC 103. RSVP to Michael Parson of the Investors Group at parsonm2@investorsgroup.com.

"Slippery Dicks and Damselfish: Interactions and Coral Reef Real Estate" is the topic of Martha Jones of the University of Windsor as the Axelrod Institute of Ichthyology's seminar series continues March 7. On March 14, graduate student Kris Chandross considers the "Use of Physiological Telemetry to Monitor Behavioural Responses in Trout." The seminars begin at 1 p.m. in Axelrod 168.

The Guelph-Waterloo Physics Institute's Distinguished Lecturer Series features Michael Turner of the University of Chicago and Fermilab discussing "From Quantum Fluctuations to the Accelerating Universe" March 7 at 4 p.m. in MacNaughton 113.

The Department of Zoology seminar series continues March 8 with Elizabeth Christie of the Sierra Legal Defence Fund in Toronto discussing "The Great Lakes and the Law" and March 15 with Prof. Janet Wood, Microbiology, explaining "Transporter ProP of *E. coli*: Osmosensor and Osmoregulator." Seminars begin at 4 p.m. in Axelrod 265A.

Next up in the biochemistry seminar series March 9 is graduate student Tania Roberts presenting "Molecular Analysis of the Interaction Between Exotoxin A and Its Protein Substrate Eukaryotic Elongation Factor 2." On March 16, the topic is "The Application of Spectrally Enhanced Proteins to the Study of Protein-Protein Interactions" with graduate student Tanya Brodeur. The seminars begin at noon in MacNaughton 222.

"Globalization From Below: Gender and Economic Anthropology" is the focus of Prof. Terisa Turner, Sociology and Anthropology, at the "Our World" seminar series March 14 at noon in UC 103.

The Department of Physics presents Ed Tomusiak of the University of Saskatchewan explaining "New Techniques and Results in Few-Nucleon Systems" March 14 at 4 p.m. in MacNaughton 113.

TEACHING SUPPORT

The Teaching Support Services workshop series featuring hands-on training in the use of learning technologies continues with "PowerPoint 11: Advanced" March 3, "HTML III: Jump-Start Your Web Site Using a Course Template" March 7 and "HTML IV: Introduction to Digital Imaging" March 21. For detailed descriptions and to register for workshops, visit the TSS Web site at www.tss.uoguelph.ca.

The TSS workshop series on "Raising the Bar: Experiential Learning at Guelph" concludes March 3 with a discussion of "Copyright and the Internet." Register on the Web at www.tss.uoguelph.ca.

THEATRE

Drama students present *Lion in the Streets*, written by Prof. Judith Thompson and directed by Prof. Harry Lane, March 13 to 18 at 8 p.m. at the Inner Stage. Tickets are \$6 Monday to Wednesday and \$8 Thursday to Saturday and are available at the UC box office, in Massey Hall 102 or at the door.

THESIS DEFENCE

The final examination of M.Sc. candidate Margaret de Jonge, Department of Food Science, is March 10 at 10 a.m. in Food Science 239. The thesis is "Effect of Vitamin E Supplemented Cattle on Colour and Lipid Stability During Retail Processing and Display." The co-advisers are Profs. Howard Swatland and Doug Goff.

COMMUNITY EVENTS

The Guelph Historical Society meets March 7 at 7:30 p.m. at St. Andrews Church. Brian Wyatt, a member of the Federated Ontario Naturalists and the Ontario Bird Banding Association, will discuss "Bird Banding in Guelph and Area."

The GCVI School Council presents "Tips on Raising Great Teens" with guest speaker Greg Anderson March 7 at 7:30 p.m. in the GCVI auditorium.

The Guelph Off-Road Bicycling Association will hold its annual general meeting March 15 at 7 p.m. in Room 3 of the Evergreen Seniors Centre, 683 Woolwich St.

Wyndham House will hold its fifth annual Dream Auction and Gala March 4 at Harpo's Banquet Halls, 89 Dawson Rd. Tickets are \$10. For more information, call 763-8040.

The Unitarian Service Committee of Canada will hold its annual fundraising dinner March 6 at 6:30 p.m. at Diana's Restaurant, 141 Wyndham St. Guest speaker is Friederike Knabe, director of Canadian programs. For tickets or information, call 822-5167 or 767-9186.

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Mills Hall to Convert to Co-ed

Smaller all-male space to be located elsewhere

TO ACCOMMODATE changing demographics and a growing demand for co-ed residence spaces, Executive Group has unanimously accepted a Student Housing Services (SHS) recommendation to convert all-male Mills Hall to a co-ed residence for fall 2000.

A smaller all-male space, consistent with the demand for all-male housing, will be provided within the residence system, with the exact location to be determined by SHS in consultation with Interhall Council, says Brenda Whiteside, acting associate vice-president (student affairs).

The decision to convert Mills was made after a lengthy consultation process involving SHS and Interhall Council, which includes the president of Mills Hall.

Whiteside says the decision is based on changes in the composition of the student population and in living preferences over the past decade. For the past several years, 65 per cent of the entering class at U of G has been female. Demand for male-only residence has been decreasing, while demand for co-ed space has grown. Last year, for example, only 31 men requested Mills

Continued on page 2



THESE FEET ARE MADE FOR WALKING

Seven staff members in Admission Services will team up next month for the eighth annual Guelph Zehrs Super Cities Walk for Multiple Sclerosis, to be held April 16. Local organizers hope to raise \$112,000 for the Multiple Sclerosis Society of Canada. Last year, some 700 walkers raised more than \$110,000 for the organization, which funds research, educational and advocacy activities, and provides individual and family services. MS is the most common disease of the central nervous system affecting young adults in Canada; about 50,000 Canadians have the disease. Limbering up in preparation for the walk are, clockwise from left: Marisa Phillips, Lise McCann, Leah Murdock, Janette Hogan, Rose Diamante, Donna Kramp and (centre) Catherine Summerlee. They welcome contributions and pledges from members of the University community.

PHOTO BY MARTIN SCHWALBE

College Royal Marks 76 Years

Student-run open house expected to draw 20,000

UOF G's first College Royal of the new millennium runs March 18 and 19, with more students participating in events than in any of the previous 75 years.

The 76th annual open house weekend will run from 9 a.m. to 8 p.m. Saturday and from 8:30 a.m. to 3 p.m. Sunday. This year's theme is "Millennium Magic," with attractions speaking to the fundamental issues of today and tomorrow, from environmental exhibits and biotechnology discussions to displays of alternative medicine and avant-garde art.

College Royal is the largest student-run open house at any Canadian university. Begun in 1925 as a livestock-showing competition and instruction session, it now attracts more than 20,000 visitors to campus and involves some 3,000 volunteers.

This year's events include a lecture series profiling the diverse ideas and research at U of G, a traditional livestock competition, photography contests, square dancing, magic shows, synchronized swimming performances and live animal surgery.

The annual juried art show will feature undergraduate works on display throughout Zavitz Hall. In addition, artwork by nine fine art graduate students will be displayed in Room 103 of the FACS Building. The students are taking part in a contest to produce a work of art to commemorate the 50th anniversary of 1949 graduates from Macdonald Institute. Judging will take place during the weekend, and the winning entry will be awarded a \$1,000 cash prize.

The chosen artwork will be officially unveiled during Alumni Weekend and will then be on permanent display in Macdonald Hall.

A complete listing of College Royal events is available on the Web at www.collegeroyal.uoguelph.ca. Programs will also be available at the College Royal office in Room 537 of the University Centre and at various locations during the event. For more details, call Ext. 8366.

Co-op Engineering Student Chosen for NRC Program

Award guarantees summer positions in NRC labs for next three years

EMILY NICHOLS, a second-year co-op student in the School of Engineering, has been selected to take part in the Women in Engineering and Science program of the National Research Council (NRC) of Canada.

Nichols is one of 25 students chosen from across Canada for the program this year. Worth an average of \$11,000 a year, the award guarantees her a summer or co-op position in an NRC lab during all three remaining years of her undergraduate program.

"I didn't believe it — I was ecstatic," she says.

The engineering systems and computing student plans to divide her NRC positions among co-op and summer terms.

Introduced in 1991, the Women in Engineering and Science program is intended to encourage women to pursue research careers in the under-represented fields of engineering, science and math. Individual



Emily Nichols

PHOTO BY MARTIN SCHWALBE

universities may nominate up to three students each year.

"She was my number one choice," says Prof. Frances Sharom, Chemistry and Biochemistry, who, along with Profs. Val Davidson, Engineering, and Elisabeth Nicol,

Physics, reviewed at least 20 U of G student applications this year. "It's hard to choose three from that list. They have to have good marks, great reference letters and great leadership skills."

Continued on page 10



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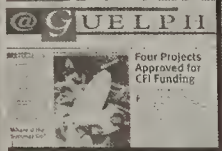
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BOARD OF GOVERNORS

Governors, Students Discuss Issues of Mutual Concern

BOARD OF GOVERNORS began its first meeting of the year Feb. 29 with a luncheon attended by representatives of student organizations across campus.

Organized by undergraduate board members Julie Cugaj and Jeff Ramlogan and graduate student member Susan Abraham, the luncheon gave board members and student leaders an opportunity to engage in open dialogue on issues of mutual concern and interest.

Main topics of discussion at each of the tables were the corporatization of universities, student accessibility to university and the role of B of G members in lobbying the government for more funding for post-secondary education.

B of G chair Simon Cooper thanked the student leaders for the informative dialogue and healthy debate. He lauded the event as a way of increasing the board's interaction with students, enhancing governors' awareness of student activities and opinions, and promoting mutual understanding of roles and responsibilities.

Cugaj says she was pleased with the student and board turnout for the luncheon and the level of interaction. She believes the event sparked an interest in all participants to continue to pursue opportunities for such dialogue. It also demonstrated that governors and students have some common ground and mutual agreements and that there is room for collaboration when the goals are the same, such as restored funding for post-secondary education, she says.

At the board meeting, governors confirmed the appointment of Prof. Alastair Summerlee as provost and vice-president (academic), beginning July 1, 2000.

The board also approved proceeding to tender on two projects — construction of a new student residence on the east side of campus and improvements to the Athletics Centre (see story, page 5).

Governors accepted a recommendation from the Pensions and Benefits Committee that U of G pension plans be amended to pro-

vide same-sex spousal pension benefits as they are currently applicable to opposite-sex spouses and to provide improved pension benefits for surviving spouses of retirees (see story, page 5).

The board also approved two documents prepared by the Membership Committee — "Role and Responsibilities of the Board" and "Role and Responsibilities of the Members" — as well as revisions to the terms of reference of three board committees. The Membership Committee has been expanded to

the Membership and Governance Committee. The Committee on Senior Compensation and the Committee on Negotiations have been blended into the Senior Compensation and Negotiations Committee, allowing the board to more efficiently oversee its responsibilities. These changes are part of an ongoing review of board committee structure aimed at empowering the committees and improving effectiveness and efficiency, allowing the full board to focus on the major policy issues before it.

Demand for All-Male Space Drops

Continued from page 1

as their first choice, in a building that has 153 beds. The remainder of the new students assigned to Mills had requested a co-ed residence as their first choice. On average, only 18 per cent of new students assigned to Mills over the last four years actually requested it as their first choice.

Patrick Case, director of human rights and equity, says: "This is more than just an issue of demographics. It becomes an equity issue when a relatively large number of students who choose to live in co-ed residences cannot be accommodated in favour of maintaining an all-male residence in which only one-fifth of the students have expressed a clear preference."

Trends across the province are similar; all universities have been facing a decline in demand for all-male space, and many universities are converting their all-male residences to co-ed space.

SHS will be better able to accommodate the preferences of its entering student body with the conversion of Mills Hall, says Prof. Alastair Summerlee, associate vice-president

(academic) and chair of the Enrollment Management Committee. A smaller all-male space will be created to provide choice for those who request an all-male residence as their first choice, and to ensure that the University provides for those students whose cultural or religious background requires them to live in a same-sex residence, he says.

Macdonald Hall will continue to be an all-female residence because demand for it continues to be greater than the spaces available.

Interhall executive members presented the council position on the proposed conversion at a special meeting of Executive Group Jan. 20.

"Executive Group is very grateful for Interhall's thoughtful input and carefully considered all the points in the council's thorough report and presentation," Whiteside says.

Interhall Council president Rich Appiah says the Executive Group's response to Interhall's recommendation to keep an all-male Mills Hall was "more than disappointing. They did not respond to the many solutions that Interhall presented. These

would have addressed the 'demographic' problem that Student Housing Services identified. Instead, the University's senior management chose to ignore the recommendation and convert the hall without hesitation."

In its report, Interhall suggested that the declining demand for Mills was not a reflection of changing trends, but rather the consequence of Mills' appearance and its negative reputation, both resulting from ongoing behavioural problems in the building.

Interhall contended that renovations to the residence, in conjunction with increased staff in the building and better programming, would produce a climate of respect for the building and help create a positive reputation. Executive Group's analysis of the material did not support this assertion, says Whiteside.

Executive Group recognizes the important history of Mills as an all-male residence, she says, "but after a careful and detailed review of all the facts, it unanimously accepted the SHS recommendation."



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NOMINEES SOUGHT FOR TEACHING AWARD

The College of Arts is calling for nominations for its third annual Teaching Excellence Award. The award is designed to honour excellence in teaching in any of the following areas: undergraduate or graduate classroom teaching, innovation in teaching, curriculum development, course development, student advising and any other activity associated with teaching. Full-time, part-time and sessional faculty and graduate students responsible for a course are eligible to be nominated. Nomination deadline is April 30. For more information, call the dean's office at Ext. 3301.

BOARD OF GOVERNORS MEETING RESCHEDULED

The March 23 Board of Governors meeting has been cancelled and rescheduled for April 25 at 2 p.m. The change is due to the lateness of this year's provincial funding announcement. Because no funding news has yet been received, U of G will be unable to present a budget to the board until next month.

SCOTTISH STUDIES COLLOQUIUM SET

The semi-annual Scottish studies colloquium will be held March 18 at 10 a.m. in Room 117 of the MacKinnon Building. Discussion topics include Scottish missionaries in South Africa, folk belief in early modern Scotland, modern Scottish literature, and insults and defamation in 16th-century Scotland. Admission is free. For more details, call Scott Moir at Ext. 3209 or send e-mail to moirs@uoguelph.ca.

CAMPUS DAYS MARCH 15 TO 17

Thousands of prospective students and their parents are expected to visit campus March 15 to 17 for this year's Campus Days. Activities will include information sessions, program counselling, displays and tours. U of G faculty, staff and students will be on hand to talk about all facets of campus life. All events will be held in the Athletics Centre and are free and open to the public. For more information, call liaison officer Laura Beattie in Registrarial Services at Ext. 6716.

WEB SITE OFFERS INFO ON VOLUNTEER OPPORTUNITIES

Looking for rewarding volunteer opportunities in Guelph, Wellington County or on campus? Looking for volunteers in Guelph or Wellington County? Check out the Interactive Community Action Network (iCAN), U of G's new online database of involvement opportunities. Located at www.ican.uoguelph.ca, the site helps agencies post volunteer opportunities and allows students and community members to search for opportunities that match their skills and interests. For more information, call Ext. 2782 or Ext. 8104.

Landscape Architect Edits New Canadian Magazine

Publication meets need for better communication in landscape architecture profession

LANDSCAPE architecture professor Cecelia Paine had no idea she'd become the founder and editor of a new Canadian magazine when she responded to a survey four years ago.

But with two issues of *Landscapes/Paysages* already published and enough ideas to fill future issues for several years, Paine is most definitely at the editorial helm of the new quarterly publication. And it's all because of a 1996 survey that looked at the biggest needs of the landscape architecture profession.

Paine's response led to her chairing a task force on the creation of a magazine, at the request of the Canadian Society of Landscape Architects (CSLA). With the help of the task force, she developed a background study and business plan, and last fall, the first issue of *Landscapes/Paysages* was published.

"When I responded to the survey, the number one need of the profession from my perspective was a communications tool, one that we could use to share ideas among ourselves and with the public," says Paine. "This publication is vital to maintaining the identity of the profession of landscape architecture in Canada and is a fundamental vehicle to understand the unique cultural approach that Canadians take in the design, planning and management of our landscapes."

By presenting a Canadian perspective on landscape architecture, the new magazine fills a definite void in the profession, she says. The most recent magazine about Canadian landscape architecture — there have been three since 1962 — folded in 1992. Until now, the profession had to rely on international publications for information.

The new magazine is sponsored by the CSLA and its nine component associations and is mailed to its 1,700 members and associates. Its key objectives are to communicate knowledge and information to landscape architects, promote the practices and skills of landscape architects to the public, and record the values and accomplishments of the profession for students and future generations.

"The magazine strives to attain a balance between the environmental and cultural or human elements,"



Prof. Cecelia Paine says the new magazine *Landscapes/Paysages* fills a void in the landscape architecture profession.

PHOTO BY MARTIN SCHWALBE

says Paine. "One of the exciting things about landscape architecture is that it incorporates two dynamic systems — human and environmental."

The magazine's first issue in the fall of 1999 featured award-winning Canadian landscape design projects. The second issue, winter 2000, focuses on the theme "Restorative Environments — Design for Human Health," again with a Canadian perspective. The spring issue will look at landscape and identity in Canada, and future issues will focus on ecological landscape restoration, design for children's environments, revitalizing waterfronts and new trends in community design.

Each issue contains sections devoted to ecology, technology, research, design, planning and practice, as well as project profiles and historical information. The full-colour magazine features articles in both English and French.

Paine is encouraged by the strong reception to the magazine so far and by the "overwhelming" response to calls for contributions. She believes the profession's grow-

ing interest in communicating ideas reflects the increased level of education among its practitioners.

"Having a voice is important for the profession," she says. "There is overwhelming support from students who are very hungry for information about practice in Canada."

The magazine's editorial board, composed of professional landscape architects from across Canada, meets annually to brainstorm ideas for future issues. One of the primary goals for the magazine is to expand its subscription base to 7,000, which would provide a stronger financial base and allow the magazine to hire a part-time editor. Paine's role as editor is entirely voluntary; she is currently assisted by a work-study student.

Before joining U of G in 1990, Paine was principal of a landscape architecture practice in Ottawa. She is an expert in heritage conservation and parks and open space. Her work has included the design of Ottawa's Sparks Street Mall and the restoration of gardens and parkland at Mackenzie King's estate in the Gatineau Hills.

BY MARGARET BOYD
OFFICE OF RESEARCH

PEOPLE

NEW DIRECTOR OF PLANT RESEARCH PROGRAM NAMED

Prof. John O'Sullivan, Plant Agriculture, has been appointed research program director for plants within the U of G/Ontario Ministry of Agriculture, Food and Rural Affairs enhanced partnership for a four-year term that began March 1. O'Sullivan, who succeeds Prof. David Hume, has been a faculty member in the Department of Plant Agriculture since 1997. From 1974 to 1997, he was a research scientist at the Horticultural Research Institute of Ontario's Simcoe station. His research interests are primarily the registration of herbicides for vegetable crops and management of high-value crops such as pickling cucumbers, peppers and cantaloupes.

PHILOSOPHERS SPEAK AT YORK UNIVERSITY

Prof. Peter Loftson, chair of the Department of Philosophy, and colleague Prof. Jay Newman, both graduates of York University's philosophy program, were invited to speak at York's 40th-anniversary celebrations this month. Loftson spoke on "Having to Choose Between Hume and Kant." Newman presented a paper on "Competition Between God and the Family."

VET COLUMN EARNS KUDOS

Prof. Pamela Reid, Population Medicine, has received the 2000 award for best column from the Dog Writers of America Association. Reid writes a column on dog behaviour for the monthly magazine *Dogs in Canada*.

CLASSICS ESSAY WINS AWARD

Tim Pettipiece, a fourth-year classical languages major, has won the Harry C. Maynard Scholarship in Classical Studies from the Ontario Classical Association. The \$3,500 scholarship is awarded annually to the Ontario undergraduate classics major who submits the best essay on a prescribed topic. This year's topic was "Classics in the Age of Information Technology."

ENGLISH PROF GIVES TALK

Prof. Michael Keefer, Literatures and Performance Studies in English, presented a paper on "Forging Freedom: Critical Humanist Strategies Against Corporatism" as part of the Munro Beattie lecture series at Carleton University.

PAPER PRESENTED TO CHEMICAL ENGINEERS

Prof. Bill Smith of the Department of Mathematics and Statistics and School of Engineering presented a paper at the recent annual meeting of the American Institute of Chemical Engineers in Dallas. His topic was "A New Molecular-Based Method for the Accurate Computer Simulation of Phase Equilibrium of Complex Mixtures." This work was done in collaboration with colleagues from the Institute of Chemical Process Fundamentals in Prague.

UW Volunteers Regroup

THIS IS THE TIME of year when United Way volunteers on campus are regrouping in preparation for the annual fall fund-raising campaign. First on the agenda was the recruitment of Dick Freeman, publicity co-ordinator for the Department of Athletics, and Karen Reimer, manager of Co-op Education Services, as co-chairs of the 2000 campus campaign.

Both are optimistic about the

University's ability to support the Guelph and Wellington United Way in its ambitious \$2-million goal in 2000. "We've got a great track record of United Way support," says Freeman, who co-chaired the campus campaign last year with chief librarian Mike Ridley. "U of G exceeded its goal in 1999 with a final tally of \$221,806 in donations."

Reimer urges U of G employees to check their next paycheque, "to

remind yourself that you are part of that success. Your United Way gift may be the smallest deduction on your paycheque, but it's making the biggest difference to thousands of people in our community who rely on the services of agencies and programs supported by the United Way."

The 2000 U of G United Way campaign will be officially launched in early September.

LETTERS

WHO IS "THE UNIVERSITY"?

Vice-president (academic) Iain Campbell reveals in his March 1 letter on "clarity" that what had been represented in his Feb. 2 letter as "the University's view" was, in fact, his own view and that of his administrative superior.

Prof. Campbell also suggests we need new "etiquette" to regulate how faculty "communicate our views." At first, I was concerned that the vice-president was continuing in the administration's path to somehow stop faculty from expressing positions critical of the University's role as a bought servant to biotech corporations — by fashioning an "etiquette" to regulate professors so that they do not freely identify themselves as members of the University, lest their stance is interpreted by others as one taken "by the University itself."

But because no literate person I have ever heard of has in good faith so interpreted a professor's identification of his or her academic affiliation in public communications, and because only the vice-president and his administrative superior have identified themselves as "the University," I thought the suggestion for an "etiquette" in these matters must be a form of self-criticism. Only in this way would the vice-president's suggestion make good sense.

But on the other hand, logic constrained me to consider another possibility more consistent with the facts. Was the vice-president, in fact, kiting a proposal on behalf of his surviving administrative superior, the president, to forge new policy to control professors' right to identify their academic affiliation in public communications, while reserving the right of senior administrators to declare themselves "the University"?

But I put this thought out of my mind. Such an usurpation conceit would not be possible for any faculty member in an administrator office, would it?

Prof. John McMurtry
Department of Philosophy

Three New Bachelor of Commerce Programs Expand Student Options

Guelph's business enrolment numbers among the highest in the country

COME THIS SEPTEMBER, U of G students interested in business will have more choice than ever, thanks to the addition of three new B.Comm. programs co-ordinated through the Faculty of Management.

Human resources management, public management and tourism management join five existing degree programs that already have some 1,500 full- and part-time students, making Guelph's business enrolment numbers among the highest in the country.

Prof. John Walsh, director of HAFa and associate dean of the Faculty of Management, says U of G's B.Comm. is popular in large measure because it offers customer satisfaction.

"Our B.Comm. programs allow students to have their cake and eat it, too," he says. They receive an honours degree with a thorough core in business theory and principles, but also a specialization that makes them incredibly employable when they graduate. They also have choice in their electives. They can take courses in fine art or English literature, for example. The end result is students who emerge both well-rounded and specialized."

The B.Comm. programs are co-ordinated through the Faculty of Management, which was created in May 1998, at the same time as the College of Social and Applied Human Sciences (CSAHS). The Faculty of Management Executive Council replaced the former Business Studies Council. As associate dean, Walsh is responsible for administering the new organization and its programs.

"In many ways, management studies at Guelph is one of our best-kept secrets," says CSAHS dean Michael Nightingale, designated dean of management. "As our management and B.Comm. programs have evolved, they have become strong players within specific niches. The Faculty of Management allows us to expand and have an increased profile in keeping with the size of our program."

Planning and implementation of the new programs reflect a responsiveness to ongoing changes in the professional labour market, says Walsh.

"An indication of this is that the Conference Board of Canada has identified tourism, human resources and public management as clear growth areas for the future," he says.

"Forecasts are that there will be considerable demand for young people to become the future leaders in those employment sectors. From that point of view, we're delighted that our research

and planning for these programs appear to be supported by other organizations carrying out similar planning. Having eight B.Comm. programs under the umbrella of the Faculty of Management ideally positions us for recruiting new students. It also allows us to build on the reputation our graduates already take with them on graduation, with many having outstanding prospects in the job market."

Confirming this is Kate Longmire, president of the Guelph Commerce Society. "With my education, I could choose almost any type of work," she says. "There's high demand for Guelph grads at the moment. When I went looking for a job, I was amazed; most companies who've had our grads have been thrilled."

The fourth-year marketing management student has already been hired by Maple Leaf Foods in Toronto, where she will join the firm's management training program.

"In many ways, management studies at Guelph is one of our best-kept secrets."

The new human resources management major will be offered by the Department of Psychology. Department chair Prof. Michael Matthews believes there are several unique aspects to the program. Whereas programs at other institutions feature human resource instruction and little else, Guelph students will learn as part of a comprehensive B.Comm. program.

"They get to see the business world from the perspective of the whole organization, not just the human resources perspective," he says. "They will take marketing, microeconomics and administration courses and be that much better prepared when they graduate."

Students in their seventh semester will also be able to take a work internship or externship as a capstone experience. And the program has been designed so that the curriculum meets all four academic components required for Tier One certification from the Human Resources Professional Association of Ontario, the governing professional body in the province.

The new public management program is designed for students who are planning long-term careers and want as many skills as possible.

"This program is tailored for the public serv-

ice," says Prof. Maureen Mancuso, chair of the Department of Political Science, which offers the major.

"Given the baby-boomer retirement bulge, both federal and provincial levels of government have announced their intentions to hire in significant numbers. Our students will be well-prepared and well-educated to step into rewarding and fulfilling positions. Our B.Comm. students will bring to the public sector a strong education in economics and marketing, in addition to public administration and management. This will be an ideal mix for government at all levels inevitably involved in economic management, overseeing enormous public-sector budgets and disbursements, and with stronger-than-ever government-business relationships in place."

The tourism management program builds on strengths and expertise not only in HAFa, but in other U of G departments as well. Its development benefited from the school's regular consultations with industry and executives-in-residence, resulting in the proposal that HAFa consider expanding its mandate to include the entire tourism industry.

"Tourism is the fastest-growing and largest single industry in the world, yet there is a dearth of programs, particularly in Canada, with a management focus," says Prof. Michael Haywood, HAFa. "This new program will give students the opportunity to develop a real edge in whatever sector of tourism they choose to enter, and a real understanding of the connectivity of the industry across all its sectors."

The departments of Agricultural Economics and Business, Consumer Studies, Economics, Political Science and Psychology and HAFa offer the new programs, as well as existing programs in agricultural business, hotel and food administration, housing and real estate management, management economics in industry and finance, and marketing management.

Longmire, who meets weekly with Walsh to discuss the programs, says the learner-centred approach is very much in evidence in the B.Comm. program.

"The enthusiasm that the faculty show for their students is incredible," she says. "I met a few weeks ago in Winnipeg with other student presidents of commerce societies, and I discovered that many don't have good relationships with their faculty or deans, whereas we are so fortunate with our relationships."

BY ALEXANDER WOOLEY

Even More Opportunities to Go the Distance

Office of Open Learning will offer 80 distance education courses this summer

ONCE AGAIN, U of G's Office of Open Learning can boast that the University is offering more distance education courses this summer than ever before.

Last year, Open Learning assisted academic departments in offering 58 summer semester (then called spring semester) distance courses, an increase of 32 per cent. This year, plans call for offering 80 distance courses, an increase of about 40 per cent over 1999.

Eighteen of those 80 courses are new, with offerings such as "Hotel and Restaurant Management Accounting," "Intermediate Spanish,"

"Marketing," "Introduction to Gender Systems" and "War and Society."

"We're listening to what our students are telling us, and they're saying they want even more distance education offerings during the summer months," says Virginia Gray, director of the Office of Open Learning. "Students look to us as a way to get ahead for next year or make up a dropped course. We are continually working with academic departments to provide new and interesting courses and improve existing ones."

Rick Nigel, distance education program development co-ordinator,

adds that taking courses by distance is becoming part of the changing nature of student life.

"These days, so many more students are working during the fall and winter semesters, as well as the summer, to help support themselves. During the summer, many of them are nowhere near Guelph. Distance education gives them the best of both worlds — they can work and keep up with their studies according to their own schedules."

In addition to the increased offerings, Open Learning is also improving student services through Open Online, its new and acclaimed "por-

tal" into the online learning experience. Located on the Web at www.open.uoguelph.ca/online, the portal includes a list of online distance course offerings, but it also provides an introduction to online learning, lets students know what to expect and even offers a virtual tour of a typical online course. In addition, there are learning tips and advice and stories from students.

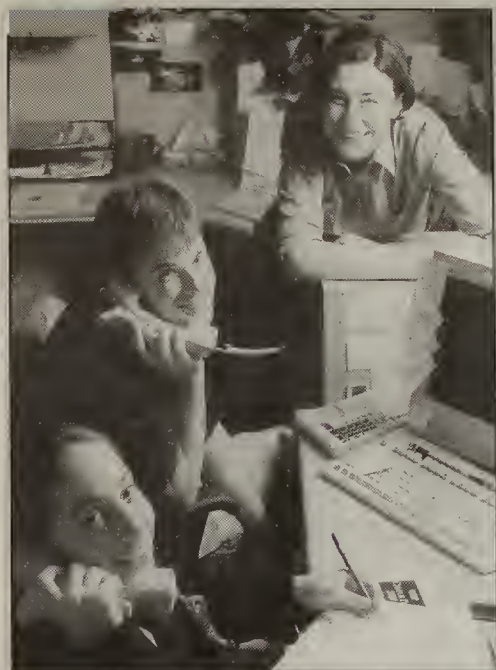
"We've designed it to be a friendly and inviting way for students to see what online learning is all about," says Nigel. "We've also included links to resources and people who can help make the distance

education online learning experience rewarding and successful."

Gray adds that online learning continues U of G's tradition of offering its educational opportunities to off-campus learners.

"Taking an online course means you have access to resources, research and experienced professors right in your own home or office. Because of the wise use of technology and the way courses are designed, learners aren't isolated and genuinely feel part of a class, even though they never meet face to face."

BY LORI BONA HUNT



CALLING ALL STUDENTS

During an Admission Services applicant telethon Feb. 6 to 17, U of G callers contacted more than 9,600 applicants to U of G, offering information and answering questions about the University and its programs. Pictured from left are student callers Melissa Patterson and David Hornsby and telethon co-ordinator Lise McCann.

PHOTO BY MELANIE GILLIS

National Co-op Week to Feature Speaker, Two Workshops

CO-OPERATIVE Education Services is celebrating national Co-operative Education Week March 22 to 26 with a keynote presentation and workshops by Melodie Stewart, CEO of Pro-Net Business Connections Inc. and one of Atlantic Canada's Top 50 CEOs. Stewart has received many awards for her entrepreneurial work, and her network training program is a part of the MBA program at Saint Mary's University in Halifax.

She will discuss "The Art of Effective Networking" March 22 at 5

p.m. in War Memorial Hall. Cost is \$5 for U of G students, \$10 for faculty, staff and the general public. U of G co-op students can attend free of charge.

Stewart will also offer two "Tools and Techniques" workshops March 23 from 9 a.m. to noon and from 2 to 5 p.m. in Room 103 of the University Centre. Cost is \$15 for U of G students, \$10 for co-op students and \$25 for the general public. To reserve a seat for the keynote or workshops, call co-op education co-ordinator Tricia Bertram Gallant, Ext. 2915.

APPOINTMENTS

Prof. Wayne Caldwell will join the College Faculty of Environmental Design and Rural Development with a 60-per-cent appointment as associate professor July 1, 2000.

Jinzhong Fu of the University of California, Berkeley, will join the Department of Zoology as assistant professor Sept. 1, 2000.

Abdelaziz Houmam of Montreal will join the Department of Chemistry and Biochemistry as assistant professor Aug. 1, 2000.

Robert Mullen of York Uni-

versity joins the Department of Botany as assistant professor July 1, 2000.

Barbara Mable of the University of Edinburgh has been appointed an assistant professor in the Department of Botany, effective Sept. 1, 2000.

Xiao-Rong Qin of the University of Wisconsin, Madison, has been appointed assistant professor in the Department of Physics, effective Sept. 1, 2000.

Carl Svensson of the Lawrence Berkeley National Laboratory in Berkeley, Calif., will join the Department of Physics as an assistant professor Jan. 1, 2001.

University Provides Equal Pension Benefits for Same-Sex Spouses

B of G also approves improved spousal survivor benefits for retirees

BOARD of Governors approved two enhancements to U of G's pension plans at its February meeting — same-sex spousal pension benefits and improved survivor benefits for spouses of retirees.

A memorandum reporting these enhancements has been sent to all employees and retirees of the University. Individual letters of explanation will be sent to each of the affected retirees and surviving spouses.

Effective April 23, 1998, U of G will provide same-sex spousal benefits in the same way they are currently applicable to opposite-sex spouses.

Until recently, the Canada Customs and Revenue Agency (formerly known as Revenue Canada) regulations made it impossible to provide pension benefits coverage to same-sex spouses. April 23, 1998, is the earliest date the agency will permit employers to provide retroactive same-sex coverage under registered pension plans.

On May 20, 1999, in the landmark decision of *M. & H. Versus the Province of Ontario*, the Supreme Court of Canada ruled that the opposite-sex definition of "spouse" in Ontario's Family Law Act was unconstitutional. The court ordered that the law be changed to ensure equal treatment for same-sex spouses. On Oct. 25, 1999, the attor-

ney general of Ontario introduced the amendments because of the Supreme Court decision. This legislation received royal assent Oct. 28, 1999.

"The University's policy change ensures that all policies governing benefits available at the University are equally available to both same-sex and opposite-sex spouses," says Vic Reimer, assistant vice-president (human resources).

Human rights consultant Jodie McConnell of the Human Rights and Equity Office says she's "pleased to see the University communicate this development to all employees. It has been my experience that the University community deeply values fairness and equality. This communication will assure all employees that a historical inequity has been fully remedied."

Anyone who has an inquiry about the University's benefits plan or wishes to change his or her beneficiary designation because of the plan amendment should call Human Resources at Ext. 3374.

"I would encourage employees in same-sex relationships to contact Human Resources with any questions they may have about this change," says McConnell. "You don't need to be 'out' in your workplace to be eligible for this benefit. And you can be assured that Human Resources maintains employee records in the strictest of confidence."

Under the amendment involving spousal survivor benefits of retirees, the pension payment survivor benefit for those who retired before April 30, 1993, will be increased effective April 1, 2000. Of those who retired before April 30, 1993, there are three subgroups affected by this change, as follows:

- Where the retiree died before Sept. 30, 1997, and the spouse is, as of April 1, 2000, receiving a joint and survivor benefit of 50 per cent. The pension in payment will be improved to the 60-per-cent level.
- Where the retiree died prior to April 1, 2000, and the spouse is receiving a joint and survivor benefit of 60 per cent, 75 per cent or 100 per cent. The pension in payment will be increased.
- Retirees who are living on April 1, 2000, and who chose a 60-per-cent, 75-per-cent or 100-per-cent joint and survivor option. The pension in payment will be increased.

Retiree Bob Logan, chair of the Working Group on Pension Issues and a member of the Advisory Committee on Pensions and Benefits, says all U of G retirees are happy to see this change.

"It involved a four-year fight with Revenue Canada, but in the end, it was all worth it," he says. It ensures that all retirees — and future retirees — will be covered with a minimum 60-per-cent survivor benefit."

Tenders to Proceed on New Residence, Improvements to Mitchell Athletics Centre

Projects will help meet increased demand for on-campus housing, athletic facilities

TWO BUILDING PROJECTS in support of students were approved by Board of Governors at its February meeting. Tenders can now proceed on a new residence and improvements to the Athletics Centre, projects designed to meet current students' increased need for on-campus housing and athletic facilities.

The new 660-bed townhouse-style residence will help address the shortage of campus housing available for returning students, a shortage due both to enrolment growth in previous years and an extremely low vacancy rate in the city of Guelph, says Brenda Whiteside, acting associate vice-president (student affairs). In addition, a growing number of returning students are requesting to live on campus.

The new residence, to be funded through external financing, will

encircle East Residences and will include a central town hall that will provide a meeting place for residents of both the new facility and East Residences.

Design of the residence and town hall was based on consultation with continuing students, who overwhelmingly prefer townhouse-style accommodation over dormitory-style housing, says Whiteside. Most of the townhouses will be three-storey dwellings accommodating four students each. Eight units will have bedrooms that are accessible for students with physical disabilities, and all units will be accessible on the first storey for visitors.

The townhouses will be used for student accommodation in the fall and winter. Depending on demand, they will also be used for conference accommodation in the summer.

The residence is slated for com-

pletion by September 2001.

Improvements to the Athletics Centre, expected to be completed this fall, involve construction of a covered field house and major renovations to the men's locker room. (The women's locker room facilities were renovated in 1993). The improvements are being funded by students through the capital building fee.

The field house, to be located behind the Athletics Centre, will address critical space constraints, particularly for intramural sports, says Whiteside. It will consist of two indoor fields for intramural soccer, field hockey and Ultimate Frisbee, and a four-lane track for recreational use and training for the intervarsity track teams. This will free up space in the Athletics Centre gymnasium for other indoor sports such as basketball and volleyball. The current tennis courts will be relocated to South Residences.

IF I WERE PRIME MINISTER

"Canada must broaden and deepen its commitment to free trade and free investment."

BY CORY MACDONALD

Editor's note: U of G graduate Cory MacDonald, a former President's Scholar who is now in his final year at both Carleton University's School of International Affairs and the University of Ottawa Law School, is the 1999 winner of the As Prime Minister Awards sponsored by Magna International. More than 500 students submitted essays in response to the question: "If you were the prime minister of Canada, what political vision would you offer to improve our living standards?" The following is a condensed version of MacDonald's winning essay.

IF THE CANADIAN GOVERNMENT is to do its job — to improve the living standards of the people in its care — it must begin a re-engineering process in which all questions, even the concept of sovereignty, are open for discussion. At the same time, it must be remembered that ideas must be judged for their quality, not their novelty. We should no sooner advocate change for the sake of change than we should settle for the cold comfort of the status quo.

I am reluctant to advocate a wholesale re-creation of Canada under a new Constitution or a new form of government, but Canada should not run from the challenge of tweaking the system when it becomes clear that its traditions have become hindrances. With this in mind, I propose the following changes.

A system allowing for the recall of a government or a given MP is long overdue in Canada. Canadians should be able to hold their politicians to account in cases of impropriety or misgovernance. At the same time, however, there are problems with recall. It creates an accountable politician, but not an accountable electorate. If Canada is to survive in the next century, both our representatives and we as an electorate must be held accountable for the decisions made in our country.

As prime minister, I would pass legislation mandating the governor general to dissolve Parliament and call for a new election in cases where it can be ascertained that a politician has breached a campaign promise. Two things would be accomplished through this plan. First, politicians would have to ensure that their promises are supported by available data and that their promises are reasonable, should they form a government. At the same time, this process would force us to cast an informed vote or live with the consequence.

I would also amend the rules of order in the House of Commons. The current rules allow parliamentarians to levy unsupported charges at other MPs without fear of recourse. Our representatives should have to hold themselves to the same levels of accountability and verification as their constituents.

Finally, I would pass legislation requiring all political parties to submit their list of promises to an independent auditing firm to assess the legitimacy of the figures.

The above procedures are designed to create a situation where governments are forced to be truthful, and we as an electorate are encouraged to cast educated votes. These procedures are not, however, a replacement for sound policy. They are merely an adjunct. For Canada to sustain its current levels of growth and maintain its standard of living, it must continue to implement economic reforms that embrace globalization, the principles of intranational and international free trade, free movement of investment both into and out of Canada, and the creation of an investment-friendly economic environment.

Interprovincial trade barriers affect the mobility rights of Canadians and throw up stumbling blocks that protect inefficient industries and slow economic growth. As prime minister, I would convene a first ministers' conference with the goal of eliminating as many interprovincial trade barriers as possible. At this conference, I would make it known that transfer payments from future federal surpluses would be tied to levels of trade liberalization. In addition, I would bring new cases before the Supreme Court to broaden the range of activities that could be controlled by the federal government's powers under the Trade and Commerce Act.

As prime minister, I would pursue trade at the international level with the same vehemence. I would embrace globalization in an effort to increase the wealth and living standards of Canadians in the short, medium and long terms. To embrace globalization is, at some level, to reject the nation-state, along with its



concepts of sovereignty and autonomy. As prime minister, I believe it would be my duty to improve the lives of Canadians, not to protect an abstract concept of "sovereignty." Globalization will mean entering into international agreements that pass power to supranational bodies, particularly in the areas of trade and monetary policy.

To embrace globalization, Canada must broaden and deepen its commitment to free trade and free investment. The last remnants of National Policy protectionism must be cast from our backs. To grow, Canada must compete with the world on equal terms. Canada is well positioned to take a lead in new trade and investment talks at the World Trade Organization.

Worldwide, consumers continue to pay overwhelmingly inflated prices on textiles and agricultural products. Domestically, we have 100-per-cent tariff quotas on milk at the same time that we worry about the malnourishment of children in Toronto and our remote regions. Protecting inefficient domestic producers does nothing to help the Canadian family. As prime minister, I would work with world leaders to spearhead a new round of trade liberalization talks within the WTO. The sooner we can lift the remaining barriers to trade, the sooner the people of Canada and the world will have more to eat.

Increased trade liberalization should be accompanied by a rationalization of our monetary policy. When Canada signed the North American Free Trade Agreement (NAFTA), our dollar reached a high of 89 cents US. Currently, it is at 68 cents. This is not an accident. At present, the low dollar is the chief reason that Canadian manufacturing firms are able to compete with more efficient U.S. producers. This masks a dangerous level of inefficiency in Canada that cannot be allowed to continue. Low-dollar efficiencies are unsustainable. Prices will eventually rise, thus removing the false efficiencies. Canada then has two choices — adjust business to the new competitive reality or manipulate interest rates to further devalue the currency. If the government chooses devaluation, this will in turn result in even higher prices for consumers on imported goods, thus further lowering the standard of living of Canadians.

As prime minister, I would work to create a monetary union among NAFTA partners, run by a central bank that would be chaired by each NAFTA nation in turn. This would expose Canadian businesses to international competition, forcing them to

upgrade and increase efficiencies. It would also create a stable price regime for Canada and its largest trading partner, which would act to facilitate the cross-border flow of goods and services. And it would isolate Canadians from speculative currency trading. This plan would expose business to a number of harsh realities. To avoid creating short-term unemployment and unnecessary displacement, Canada must open its doors wide to investment from multinational enterprises.

It should no longer matter whether a company or its board is Canadian. Basing product decisions on the nationality of board members is xenophobic and inefficient and costs Canadians money. Currently, Canadian content regulations limit the amount of a bookseller that a foreign entity may own. No investor can hold more than 10 per cent of a chartered bank. The finance minister rejected the merger plans of Canada's four largest banks. Such procedures are nothing short of governmental malpractice. These regulations interfere with market decisions and re-emphasize Canada's image as a hostile investment climate.

As prime minister, I would review each government program designed to limit investment by foreign nationals, along with all other programs meant to manipulate private-sector decision-making. Only in cases where a drastic economic instability could be proven would the program continue to exist. Most important, I would eliminate the domestic content requirements necessary to qualify for tax deferral through an RRSP. The purpose of Canada's RRSP system is to ensure that our elderly are cared for, not to encourage investment in businesses offering an inefficient rate of return. Canada's current system threatens the long-term security of the elderly in favour of the protection of inefficient industry.

I would also begin instituting a broad process of tax reform and reduction. The high rate of taxation in this country hurts all Canadians, not merely a wealthy few. Money collected and redistributed through taxation lowers the rate at which money is spent, thus slowing the rate of economic growth. High taxation rates force firms to make financial decisions based on tax exposure rather than on productive efficiencies. In addition, high taxation rates act as a disincentive to remain in Canada or place firms here.

The brain drain is a very real and very dangerous phenomenon. Canada's top law students are being wooed by New York law firms. Canadian doctors are leaving the country in alarmingly high numbers. Canada's high-tech sector is experiencing a labour shortage, as qualified computer scientists and engineers migrate to more lucrative positions in the United States. Although immigration policy can offset some of these losses, as we offer positions to talented people from abroad, it remains to be asked why Canada is forcing those who grew up here to leave. Canada should not become a generational stopover between the world and the United States. Rather, Canada has a duty to ensure that it remains an attractive destination in which to create wealth and raise a family for several generations.

As prime minister, I would raise the tax brackets within the income tax levels, in line with those in the United States. I would work to bring taxes to a point where no Canadian paid more than 40 per cent of his or her income into taxes. In addition, I would halve the levels of all capital gains taxes over five years and drastically cut levels of corporate tax.

The result of these policies would not be an increased stratification of the rich and poor in Canadian society, but rather a stable and powerful climate in which to attract investment and innovation. No other more innovative set of policy options would improve the lives of Canadians more quickly and more effectively than this.

Canadians are currently misgoverned. Most Canadians do not realize that we maintain our standard of living only through our low dollar and natural resources. We must develop a knowledge-based economy that can withstand the eventual depletion of many of those resources and provide an attractive home for entrepreneurs, doctors, engineers and scientists. Through intelligent governance, Canada can add an attractive investment climate to its list of benefits and remain the best country in the world. I look forward to living here.

A PASSION FOR RESEARCH

Work in immunology of pregnancy blurs boundaries between human, animal medicine

BY GAYLE ANDERSON

BIO MEDICAL SCIENCES professor Anne Croy knew as a student in the 1960s that her passion was research. Now, her work in the immunology of pregnancy has provided her with opportunities to blur the boundaries between human and animal medicine and dive into her passion with vigour. In fact, her research pursuits have been recognized internationally, opening doors for her to work with some of the best people in the field of immunology.

A 1969 graduate of OVC's DVM program, Croy was one of only four women in her class. As she worked her way through the program, she knew her aspirations were to be a researcher. Setting the pace for achievement, she became the first non-medical doctor to enter graduate studies at the Institute of Medical Sciences at the University of Toronto.

After graduating from Toronto with a PhD, Croy practised veterinary medicine in St. Catharines with her husband for four years, then taught at Brock University for six years. She was drawn back to Guelph to join the faculty of the Department of Biomedical Sciences in 1985.

Although ensconced at her alma mater, Croy reaches far beyond the U of G campus through her research. She is a permanent study section member of the National Institutes of Health (NIH) in the United States — a position held by few Canadians. The NIH provides funding for medical research in fighting disease and improving health. She became involved with the NIH in 1991, but it wasn't until 1995 that the organization allowed foreigners to become permanent members.

As a permanent study section member, Croy works with a group of government officials and scientists to review proposals for funding. She says the amount of work involved in this task is "huge," but it's also very stimulating. "When we're reviewing the reports, we're seeing into the future of where science is going," she says.



Croy says NIH members tend to be more senior scientists, whose task is to be good judges of science. "The whole essence is to promote human health," she says.

Although reviewing proposals gives Croy the opportunity to watch the progression of medical research, she also finds the position benefits her own work. She says that reading the material

presented to the NIH and interacting with other scientists in her field broadens her own perspective and provides her with extensive background information and contacts.

Croy's work is animal-based, using the mouse as a model for her studies into the immunology of pregnancy. Her research could help vets and farmers understand uterine lymphocytes in livestock. But her work also has major implications for human medicine. In fact, it could lead scientists to finding a way to eventually eliminate the human gestational disease of pre-eclampsia. This disease typically occurs in the second half of pregnancy and, if diagnosed, requires a baby to be delivered early or the mother could be at risk for convulsions or death.

How much can mice tell us about human reproductive immunology? Croy says the two reproductive systems are remarkably similar. And because mice reach adulthood after six to seven weeks and produce about 10 offspring every three weeks, researchers can monitor successive generations of mice over a short period to discover the long-term ramifications of health problems. She is also able to study an individual tissue section of an entire fetus under the microscope. For these reasons, mice play a central role in another of Croy's research projects, one that has found mothers pass along to their children more of themselves than previously thought.

Croy has been recognized extensively for her expertise and sought after for her knowledge. She has addressed the medical and science profession around the world. In 1994, she began a graduate course on fetal health at OVC, and she teaches a summer course on reproduction at the Wood's Hole Marine Biological Laboratory in Massachusetts. The class is made up primarily of medical doctors.

Croy's work has also earned her prestigious accolades, including the J.C.B. Grant Senior Scientist Award from the Canadian Society of Anatomy, Cell Biology and Neurobiology in 1998.

PHOTO BY MARTIN SCHWABE

IN THE NEWS

Prof. Karl Meikle, Agricultural Economics and Business, was quoted in a Jan. 3 issue of the *Ottawa Citizen* in an article on genetically modified foods. The same issue included an article that quoted Prof. Mark Sears, Environmental Biology, on the same subject.

Retired environmental biology professor Jack Alex, curator of U of G's herbarium, was interviewed for CBC Radio's *Ontario Today* program Jan. 4.

The Jan. 10 issue of *Maclean's* magazine featured a one-page article on research at U of G and other Ontario universities on replacement organs and tissues from animals and cultured human cells. It quoted Prof. Danny Butler, Clinical Studies.

The Jan. 11 issue of the *National Post* featured an article on a donation of an L.M. Montgomery manuscript, *Rilla of Ingleside*, to the U of G Library. The story quoted Bernard Katz, head of special collections and library development, and English professor Mary Rubio. Katz was also interviewed on *Ontario Today* Jan. 24. The story was circulated by Canadian Press and aired on national TV and radio, including CBC's *The National* Jan. 20. Rubio

and professor emerita Elizabeth Waterston were interviewed for CBC-TV's *Life & Times* March 7 program on Montgomery.

Prof. John Phillips, Molecular Biology and Genetics, was quoted in a Jan. 13 *Globe and Mail* article talking about a biotech company that is producing artificial spider silk.

Prof. Steven Kruth, Clinical Studies, appeared on *Ontario Today* Jan. 14 discussing pets and vaccinations.

Research at Laboratory Services was featured in a Jan. 15 article in the *Toronto Star*. The article focused on the herbal medicine industry and featured research findings that resulted from tests contracted by Torstar. The article featured a photograph and quotes from Chung-Ja Jackson and Jean-Paul Dini. Jackson is also quoted in the April issue of *Canadian Living-Health for Life* on the health benefits of soy.

Profs. Mansel Griffiths, Food Science, and Doug Powell, Plant Agriculture, appeared on the Jan. 15 edition of CBC-TV *National News' Saturday Report* talking about bacteria and fresh fruit and vegetables.

On Jan. 17, Prof. Terry Crowley, History, participated in a panel dis-

cussion on the CBC Newsworld program *Counterspin*, discussing the current farming crisis and the history of farming in Canada. On Jan. 24, the program focused on biotechnology and included Prof. Alan Wildeman, Molecular Biology and Genetics, as a guest panelist.

Research by Prof. Elizabeth Lee, Plant Agriculture, on white corn suited for northern climates was featured in the Jan. 20 issue of the *Globe and Mail*.

Prof. Jay Newman, Philosophy, appeared on *Ontario Today* Jan. 21 talking about tolerance and the media and the firing of news anchor Avery Haines.

The Jan. 22 issue of the *National Post* featured a review of the art show "Field Work" by Prof. Monica Tap, Fine Art and Music.

Prof. David Hume, Plant Agriculture, appeared on CBC Radio's *This Morning* Jan. 23 discussing soybeans as part of a feature on food innovations.

Research by Prof. Mary Ann Evans, Psychology, and Joanna Chung on the relationships between shyness in children and childhood illness, was featured in the Jan. 24 *National Post*.

A Jan. 24 editorial in the *Globe and Mail* mentioned work by Prof. John Liefeld, Consumer Studies, on the effectiveness of anti-smoking labelling. He was also quoted in the January issue of *New Scientist* magazine.

A Jan. 29 *National Post* column by Gillian Cosgrove mentioned Profs. Mike Dixon and Bernard Grodzinski, Plant Agriculture, and their work on a "breathing wall" as an environmentally friendly solution to "sick building syndrome." The column also described plans for this year's Scot of the Year gala dinner, scheduled for April 4, whose proceeds benefit U of G's Scottish studies program.

The February issue of *Food in Canada* included an article on the launch of the Ontario Poultry Program Team, a partnership of U of G, the Poultry Industry Council and the Ontario Ministry of Agriculture, Food and Rural Affairs. The article included comments by Prof. Larry Milligan, vice-president (research).

The February issue of *Canadian Living* magazine featured a story on dietary fats, with quotes from Prof. Bruce Holub, Human Biology and Nutritional Sciences. He also appeared on the CBC program

Health Matters Feb. 3, discussing food supplements and memory.

Prof. William O'Grady, Sociology and Anthropology, was interviewed by 10 CBC Radio affiliates across Canada Feb. 7 about his research findings on youth access to tobacco.

Prof. George Brinkman, Agricultural Economics and Business, was quoted in a Feb. 7 *Toronto Star* article on food prices. His colleague Prof. Peter Stonehouse was quoted in a Feb. 7 *Maclean's* article on organic farming and food prices.

Prof. Gard Otis, Environmental Biology, was quoted in a Feb. 27 *Toronto Star* article on researchers training bees to be busier and brighter. Otis commented on honeybees and pollination.

A Feb. 27 *Toronto Star* article on small towns struggling to save their schools mentioned research by Prof. Al Lauzon and Danielle Leahy, Rural Extension Studies, on how there is no evidence that larger schools are more beneficial.

The March issue of *University Affairs* included a comment from Prof. Fred Evers, Sociology and Anthropology, about curriculum changes and skills for lifelong learning.

Peer Consultation Program Boosts Teaching

'We have to break through this culture where faculty don't talk to each other about their teaching'

COME AGAIN? Prof. Ron Stoltz, Landscape Architecture, winner of a 1999 3M Teaching Fellowship, is engaging a fellow professor to help improve his teaching? Smiling at the apparent paradox, Stoltz says it illustrates one of the main goals of Guelph's three-year-old peer consultation program: helping good teachers get even better.

He hopes to convince other professors to try the program, which now sees about 10 participants a year matched up with one of 14 volunteer faculty members. Specially trained as consultants, these faculty aim to help instructors from across campus improve their teaching practices.

Far from being intended to remedy poor teaching, the program is meant to help professors of all stripes reflect on and improve their instruction, says Stoltz. That's the kind of constructive self-criticism faculty need in following Guelph's strategic direction of learner-centredness, he says.

"Historically, most people seeking the peer consultation program are not having difficulties with teaching. They're interested in understanding how a component of their course is going."

Faculty might want to use the program to examine all or part of a course or some aspect of teaching, he says.

Stoltz, for example, is engaging a consultant to help him assess his progress with a course he'd never taught before this semester. Other faculty have used the program for help in integrating lecture and laboratory components of a course, for discussing new practices such as team teaching, and for assessing the effectiveness of new learning technologies.

He borrowed the concept three years ago from the University of Alberta (other Canadian universities have also adopted the Alberta program) while director of U of G's Teaching Support Services (TSS).

He enlisted 14 faculty from across campus to undergo training as peer consultants. These consultants serve as conduits for student feedback, provide a sounding board for ideas and

suggest changes. Volunteers are matched with faculty from different disciplines to ensure that the consultation focuses not on content but on teaching style.

Although designed as a faculty-to-faculty consultation, the process actually brings together professors and their students to complement more routine course evaluations. This student-centred process, which normally takes about a day to complete, includes in-class observation, written comments from students and focus groups.

ments the unit's workshops and consulting services offered in Day Hall.

TSS director Prof. Julia Christensen Hughes says "information conduits" might be a better term than "teaching gurus" to describe the role of consultants in bringing together instructor and students.

"I think the program demonstrates to students that faculty members and the institution care about the quality of teaching and learning practices and that they are working hard to make improvements," she says.

lems or to improve your teaching style," he says. "With the assistance of some quality teachers on a consulting basis, it improves the standards of our teaching."

Last year, Christensen Hughes enlisted a fellow consultant to help her evaluate the assessment component of "University Teaching: Theory and Practice" (UTTP), then amended the course based on the results. (Student assessment itself was the topic of recent discussions led by Anthony Marini of the University of Calgary, who visited Guelph — and the UTTP class — earlier this month.)

Just as students are expected to become more self-reflective through their university studies, so good teachers go beyond their course content to consider how their ideas and information are being received in the classroom, says Stoltz. "Good teachers have to be good multi-processors. They have to be critically self-aware."

They also have to recognize the value of discussing teaching practice, says Christensen Hughes. "Teaching is such a public undertaking, but I think for a lot of faculty, it's still considered a private endeavour. There could be reluctance or hesitancy to invite colleagues into the classroom. To become learner-centred, we have to break through this culture where faculty don't talk to each other about their teaching."

Prof. Donna Palmateer Pennee, Literatures and Performance Studies in English, notes that "in times of inflated expectations of productivity for professors, too often teaching is what gets done — very often very well. Too seldom does teaching get talked about in detail."

Prompted by curricular revision and enrolment changes, this award-winning professor used the program to reflect on teaching and learning approaches. "I learned far more from this process than I learn from print scholarship on pedagogy."

For more information about the peer consultation program, call Stoltz at Ext. 6179 or send e-mail to rstoltz@la.uoguelph.ca.

BY ANDREW VOWLES

"I think the program demonstrates to students that faculty members and the institution care about the quality of teaching and learning practices and that they are working hard to make improvements."

"You should hear the constructive, clear, mature comments the students provide," says Stoltz. "They don't whine or carry on. You ask a question and they give it to you. It reaffirms your faith in humanity."

The process normally ends when the faculty member receives a report outlining results and suggestions. Last year, Stoltz enlisted University professor emeritus Trevor Dickinson, a 3M Teaching Fellow and recipient of U of G's John Bell Teaching Award, to address issues with participants as a long-term "coach."

The peer consultation program is confidential and entirely voluntary. Stoltz says it's important that it not be viewed by administrators as a remedial tool. Nor does it automatically become part of the performance review process, unless a faculty member asks that it be included.

"People come to the peer consultation program, they're not sent," says Stoltz, adding that some people have mistaken the program for some form of employee assistance.

Affiliated with TSS, the program comple-

She and Stoltz would like to see departmental chairs spread the word about the program, particularly among new faculty being hired to address the coming enrolment bulge and to offset an anticipated retirement wave.

"I would be happy to do 25 or 30 consultations a year," says Stoltz.

As a peer consultant, Christensen Hughes has gone through the process with two faculty members. Her current assignment involves an instructor at Kemptville College, marking the first application of the program in one of U of G's agricultural colleges outside Guelph.

Dave Beattie, director of OAC's agri-food education programs, says administrators are considering establishing a network of peer consultants for the roughly 100 faculty who teach in diploma programs at Guelph, Kemptville, Ridgetown and Alfred. He says the program would complement the existing peer review system used at the agricultural colleges.

"Although we have a student rating system, it's just one tool and it doesn't necessarily give you the information you need to correct prob-

@Guelph Schedule

Publication Date	Copy Deadline
March 29	March 20
April 12	April 3
April 26	April 14
May 10	May 1
May 24	May 15
June 7	May 29
June 21	June 12

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As the Worm Turns

Study explores contribution of earthworms to agriculture



Bert VandenBygaart holds soil blocks used to study soil structure and how it's affected by tunnelling earthworms like those shown at right.

PHOTO BY MARTIN SCHWALBE

RIGHT NOW, farmers' thoughts are more focused on what they'll plant this spring than prospective tillage practices. But a U of G soil scientist says that when farmers turn their attention to plowing, they might be better off leaving at least part of the job to earthworms.

Bert VandenBygaart, a research associate in the Department of Land Resource Science, is working with Cathy Fox of Agriculture and Agri-Food to accurately determine what proportion of soil structure is largely influenced by the natural tunnelling activity of earthworms.

It's long been known that a healthy earthworm population is important for healthy soil, but the researchers are now evaluating and quantifying the effect earthworms have on soil structure. They're also determining the creatures' influence on conservation tillage or reduced plowing practices.

"There is a definite lack of appreciation for the precise contribution earthworms have on soil structure," says VandenBygaart. "We need to understand their impact on soil, so their benefits can be built on and current agricultural practices improved."

Worms work best in reduced tillage or no-till systems. By digging small tunnels through the soil, they create voids that allow water and dissolved nutrients to flow through, making them more readily available to growing crops. Worms mix the soil by feeding on organic residues at the soil surface and dragging them back down into their burrows, leaving nutrient-rich fecal castings in their trail that can be readily taken up and used by plants.

Plant roots sometimes follow

worm burrows down into the ground. Allowing this natural process to occur could help boost crop productivity, says VandenBygaart.

In traditional modern agriculture, farm fields have been mechanically plowed every year to aerate soil, reduce weeds and promote better drainage and nutrient cycling. The problem is that plowing can lead to erosion and loss of valuable soil. And plows kill earthworms, nature's way of aerating the soil.

In conservation tillage, however, plows are used less frequently, reducing erosion and sparing earthworms. The practice assumes that worms can replace plows somewhat by creating a loose soil structure that promotes good crop growth.

To evaluate soil structure, VandenBygaart and Fox cut hand-sized blocks of soil from fields and filled the blocks with a special resin to maintain the soil's natural state. They then scanned cross-sections of the soil blocks into a computer to obtain a digital picture of the soil structure. Now, they're developing a means of using these digital images to quantify the voids and solid parts that make up the soil blocks.

They will also use computer modelling to identify shapes and features that can be directly attributed to earthworm activity.

"If we can show the positive effects earthworms have on soil, then farmers may be able to change some of their current management practices," says VandenBygaart. "By plowing less frequently, farmers might benefit from reduced energy inputs."

This research is sponsored by Agriculture and Agri-Food Canada.

BY PATRICIA RADBURN
OFFICE OF RESEARCH

Emotion-Arousing Warnings Deter Smoking, Study Finds

Research prompts Health Canada to propose more graphic warnings on packages

LARGE emotion-arousing warning messages on cigarette packages, accompanied by graphic images, will encourage some smokers to stop smoking and deter non-smokers from taking up the habit, a U of G researcher has found.

Prof. John Liefeld, Consumer Studies, also discovered that even when warning messages cover 60 per cent of a cigarette package's surface, smokers have no problem recognizing their brand in a simulated store display.

Liefeld was commissioned by Health Canada to study the relative impact of the size, message content and pictures of health warnings on cigarette packages on encouraging smokers to quit and deterring non-smokers from starting. The study also assessed the relative impact of larger, stronger warning messages containing pictures on an individual's thinking about smoking, compared with six other types of influence.

In addition, the study was designed to assess the impact of larger warning messages on brand/trademark recognition.

As a result of Liefeld's study and three others, the minister of health recently proposed increasing the size of health warning messages, printing them in colour and including a graphic image.

"The relative utility of pictures for encouraging people not to smoke is 60 times stronger compared with no pictures," says Liefeld. "And

when the warning message size is larger, the impact is further enhanced."

He studied a sample of 617 people in Ontario and Quebec. About one-third were teenage smokers and another third were teenaged non-smokers. (An estimated 90 per cent of smokers begin before age 20.) The remaining participants were adult smokers.

In the study, respondents were shown a number of pairs of cigarette packages with warning messages that varied in design, content, size and inclusion of a graphic image. Participants were asked which package from each pair most encouraged them to stop/start smoking. The message content ranged from emotional statements such as "smoking kills babies" to unemotional statements. The pictures included images of rotting gums and teeth and simple pictures of hazardous product packages.

The respondents also ranked the importance of seven different influences on their thinking about smoking, before and after seeing the larger, stronger and more graphic warning messages.

In the trademark portion of the study, respondents had to find "their brand" in a display of 30 packages on a computer screen simulating a store counter and looking at cigarette packages on the shelves. On one screen, the package images had warning mes-

sages covering 35 per cent of the package surface. On another screen, the warning covered 60 per cent of the surface.

Liefeld found that the number one deterrent was message content. "The more emotional, the better, and adding pictures with the messages and increasing their size to at least 50 per cent of the package surface greatly increased their impact."

The effects were the same for smokers and non-smokers and teenagers and adults, both in Ontario and Quebec.

In the ranking task, the influence of the warning messages on one's thinking about smoking increased greatly after exposure to the larger, strong and more graphic warning messages.

"It can be concluded from these results that the immediate impact of larger, stronger warning messages with pictures on a person's thinking about smoking would be strong," says Liefeld.

In addition, the study found that for 95 per cent of smokers, there was no difference in the time taken to locate their brand in the display, even when the warning label covered 60 per cent of the package surface. In fact, for 80 per cent of non-smokers, there was no time difference in locating the brand most familiar to them in the simulation experiment. This result does not support tobacco companies' allegations that consumers would not be able to recognize their brand, Liefeld says.

BY LORI BONA HUNT

Hemp Is Happy in North

Research offers new possibilities for commercial crops in cold regions

INDUSTRIAL HEMP (*Cannabis sativa*) has the potential to be a viable commercial crop in northern Ontario, but an infrastructure for processing it needs to be developed, says a U of G researcher.

A pilot hemp production program completed last fall heralded the first successful commercial harvesting and marketing of the crop in northern Ontario. U of G researcher Gordon Scheifele, based in Thunder Bay, conducted hemp field trials at five research stations across northern Ontario, from New Liskeard to Rainy River.

Eight varieties of the grain were evaluated for fertility, growth inhibitors, seeding rate, and planting and harvesting methods. One of the two commercial fields was successfully harvested in Thunder Bay and marketed to Hemp Oil Canada.

"The results of this study are a big step forward for boosting agriculture in the region," says Scheifele. "For every acre of land devoted to agriculture in northern Ontario, one acre remains idle. Hemp is a sustainable crop with value-added potential that could help the region expand and di-

versify its agriculture."

A 60-year ban on growing hemp — lifted by Health Canada in 1998 — was originally imposed because of high levels of THC (delta-9-tetrahydrocannabinol) found in marijuana, which is from the same plant species. But tissue samples analysed for THC — the chemical compound that gives *Cannabis sativa* its illegal status — found that levels were extremely low (less than 0.12 per cent) across all growing regions.

Hemp is known to be an exceptionally environmentally friendly crop. It's the first and only agricultural crop that can be grown in commercial acreage without significant amounts of herbicides or pesticides. The physical properties of the plant naturally inhibit weed growth; it's believed the plant's leafy canopy provides sufficient ground shade to choke weeds out before they become a problem. And the crop doesn't have to rely on pesticides because there are no known pests that threaten hemp.

A separate research project by Prof. François Tardif, Plant Agriculture, is centred on the response of industrial hemp to herbicides, to

develop scientific data to back these claims.

Markets for hemp are diverse because both the fibre and grain have industrial uses. Hemp grain has been marketed to the health-food industry as an ingredient in salad dressings, cereals and other hemp food products. Hemp oil has the most perfectly balanced essential fatty acid profile of all vegetable oils required for humans.

The plant also produces a durable fibre that can be used in the manufacture of textiles and also used by the pulp and paper industry.

But for hemp to take off in the North, investment in processing infrastructure must occur first, says Scheifele. "The potential to grow hemp in northern Ontario is huge. We aren't limited by the ability to grow the crop but by the lack of processing technology."

This research is sponsored by Agriculture and Agri-Food Canada and the Ontario Ministry of Agriculture, Food and Rural Affairs.

BY LAURA LEVAC
OFFICE OF RESEARCH

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Working Group Reviews Terms and Conditions of Employment for Grant, Contract Employees

Group recommends strengthening Guelph's diligence in ensuring fair compensation

UOF G has reaffirmed its commitment to ensuring that, compared with other University employees performing similar work in similar types of appointments, grant and contract research staff are compensated fairly.

At the same time, faculty research support recipients will continue to control their grant and contract funds and have the freedom to select and retain the best-qualified staff to support their research initiatives.

A working group convened last summer by provost Iain Campbell was asked to review terms and conditions of employment for all grant and contract personnel (about 300 individuals). Members were Prof. Larry Milligan, vice-president (research); CBS dean Bob Sheath; and Vic Reimer, assistant vice-president (human resources). Profs. John Roff, Zoology, and Bill Woodward, Human Biology and Nutritional Sciences, were faculty advisers. The group considered salary levels, duration of appointments and eligibility for group benefits and pension plans.

The group reported to the Vice-President's Academic Council (VPAC) that it was satisfied that, in most instances, incumbents were being paid within appropriate salary bands, compared with similar established technical positions at U of G. All were receiving benefits coverage subject to the same eligibility criteria in place for other University employees with similar appointments.

Recommendations made by the working group for strengthening Guelph's diligence in ensuring fair compensation have been accepted by VPAC. These recommendations reflect current practices at most Ontario universities, where grant and contract positions must be evaluated and banded to determine appropriate salary rates, and where incumbents must be paid no less than the minimum of the bands assigned.

The amount and duration of funding to provide salaries and benefits for research staffing is at the discretion of external funding agencies. "It follows that grant or contract applicants need to determine acceptable rates of pay before they apply for funding — normally by

consulting their Human Resources service co-ordinator," says Milligan. "Otherwise, difficulties can arise when staff are hired."

The working group also acknowledged that research funding awarded by external agencies is frequently less than requested by the researcher. This presents challenges to project leaders and may necessitate adjustments to staffing plans and associated job duties to maintain fair compensation levels.

Communications soon to be issued jointly by Campbell and Milligan will require that all research proposals that include personnel contain preliminary estimates of total salary and benefit costs appropriate for the duties to be performed. Campbell says research support recipients will also be encouraged to hire for the longest duration possible. This will maximize benefit eligibility, increase security for employees and help attract better-qualified job applicants, he says.

"Grant and contract staff are an integral and valuable part of the University's research activities," says Campbell. "We must continue to treat them fairly."

NRC Program Encourages Women to Pursue Science

Continued from page 1

Nichols has her eye on two of NRC's 11 research labs across the country. The Industrial Manufacturing Technologies Institute in London recently opened a virtual-reality centre that offers car makers and other industries a cheaper, more efficient alternative to conventional product design and testing. She's also considering the Ottawa-based Institute for Research in Construction, where she might study health and safety issues in buildings.

She hopes her NRC experience will point her toward possible career paths. She might follow her interests in agricultural technology, say, in developing global positioning software used by farmers in everything from monitoring crop yields to adopting the most efficient fertilizing practices.

Last summer, Nichols worked for Prof. Ron Fleming at Ridgeway College developing software for a manure composting system to help

hog farmers improve their waste-treatment practices.

"She's just such a good-natured sort, always has a smile on her face," says Fleming.

Nichols grew up on a 200-acre farm in Blenheim. Guelph is the alma mater of both her parents. Ian earned a B.Sc. (Agr.) in 1978, and Jean graduated with a BA in 1976.

After Grade 12, Emily Nichols attended the Shad Valley program, which selects bright high school students to attend science camps at universities across Canada. "That was one of the things that pointed me toward engineering," she says.

She came to Guelph with an entrance scholarship from the Professional Engineers of Ontario. At U of G, she has been captain of two intramural volleyball teams and has helped out during engineering and science open houses.

She says one of the keys to her academic success is Guelph's residence cluster concept, which groups first-year students in similar programs in campus residences. "That really helps you survive first year." She now shares an East Residences suite with many of her neighbours from last year.

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Two tickets anywhere Air Canada flies, valid until June 14, Maggie, 822-2952.

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Barnaby Crown dressage saddle, 16½ inches, black, excellent condition, Cecily, 362-0370 or send e-mail to cstrutt@ovc.uoguelph.ca.

Kwai upright piano, excellent condition, 823-2788 evenings.

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Siamese and Balinese kittens, 856-9653 or 856-0157.

Handmade wooden clothes dryers, Ext. 6580.

Plant sale, March 19 at 3:30 p.m. at the Horticultural Club's College Royal display in the Bovey Building.

Computer, AMD K6-11400CHIP, 128 MEG RAM, 4 GIG HD, USR 40X CD, USR 56K voice modem, bilingual keyboard, includes assorted software; Peugeot Horizon

hybrid bicycle with helmet and accessories; Apollo triathlon bike with computer and bottle; Schwinn Bowflex exerciser with belt; Cleannet phone with case and charger, digital only; leave message at 767-1333.

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Three-bedroom apartment on top floor of two-level bungalow, 1,100 square feet, balcony, hardwood floors, laundry, garage parking, large backyard, 20-minute walk to campus, prefer professional couple, \$975 a month inclusive, Tricia, Ext. 2915 or 823-2763.

Furnished bedroom in quiet south-end house, close to campus, bus and shopping, central air, parking, non-smokers, no pets, \$495 a month inclusive, leave message at 824-1568 or send e-mail to xiaomins@uoguelph.ca.

Large one-bedroom basement apartment in south-end house, suitable for one person, close to campus and shopping, parking for one vehicle, available April 1, Ext. 2849 or 763-1085.

Bright one-bedroom apartment for summer sublet from May 1 to Aug. 31, close to campus, backs on to park and river, pets welcome, laundry, outdoor pool, \$450 a month inclusive, 836-8031.

Bachelor apartment with separate entrance on Edinburgh Road, three-piece bath, parking, close to campus, non-smoker, no pets, available April 1, lease and references required, \$425 a month inclusive, 837-1847.

Two-bedroom furnished apartment in south-end residential home, ground level, private entrance, central air and vac, parking for one vehicle, five-minute drive to campus, non-smokers, no pets, \$800 a month inclusive, one-year lease beginning May 1; furnished three-bedroom home in south end, deck, Jacuzzi, fireplace, air, non-smokers, no pets, available July 1 to Aug. 30, 2000, \$2,300 a month, Carol, 823-1857.

WANTED

Large room or small apartment for May 1 for a mature male part-time technician, \$400 to \$500 a month inclusive, 821-3948.

One-bedroom or bachelor apartment for quiet fourth-year female student, within 20-minute walk to campus, laundry, non-smoker, no pets, parking required, September to April 2001, Emily, 836-9182.

Local researcher seeks Trudeau memorabilia — posters, pamphlets,

stickers, buttons, personal photos — for research or possible exhibition purposes, send e-mail to gldages@uoguelph.ca.

Executive seeks house or townhouse in Guelph starting April 1, two or more bedrooms, Paul, 767-3915.

Small, inexpensive bachelor apartment or self-contained room in quiet building/home for mature female student for April 1, references, house/sitting/gardening experience, Betsy, 519-433-9724 or send e-mail to bblocker@hotmail.com.

Fourth-year landscape architecture student to design residential landscape, send e-mail to csousa@alumni.uoguelph.ca.

Reliable older boat with key-start motor, Linda, 836-9236.

Cottage in the Parry Sound area, Marlene, Ext. 6552.

One- or two-bedroom apartment, send e-mail to jxh67@psu.edu.

One- or two-bedroom apartment for April 1, Pauline, 822-6855 or send e-mail to pteal@uoguelph.ca.

Furnished home/flat for professional couple and 12-year-old boy, close to campus, May to September, references, 824-9203 after 6 p.m.

Little Tykes car bed in good condition, Annette, 763-3808 after 5 p.m. or send e-mail to jaudet@uoguelph.ca.

Used pressed-powder cases with mirrors for crafts, Ext. 2965.

Children's bicycle trailer, Carey, 767-0690 or send e-mail to cbergman@uoguelph.ca.

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ARBORETUM

"A Life Zone Approach to Naturalization," a one-day workshop led by horticulturist Henry Kock and naturalist Chris Early, is being offered April 11 and 18. It features interpretive walks, enabling participants to learn how to read or interpret the organizational characteristics, function and wildlife interactions in natural landscapes. Cost is \$55. Registration and payment are required by March 28.

Theatre in the Trees presents the dinner-theatre comedy *Beyond a Joke* by Derek Benfield Saturdays until April 29. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are \$45 and are available at Ext. 4110.

ART CENTRE

An opening reception for the exhibitions "Rolph Scarlett: Art, Design and Jewelry" and "Lois Etherington Betteridge: A Tribute Exhibition" will be held March 23 from 6 to 8 p.m. at the Macdonald Stewart Art Centre. On March 24, the centre will host a panel discussion on Betteridge's work at 10:30 a.m. At 11:30 a.m., Betteridge will give an artist's talk, to be followed by a luncheon. At 1:15 p.m., art centre curator Judith Nashby will give a talk on Scarlett's work. Both exhibitions continue until Aug. 4.

CONCERTS

The Thursday noon-hour concert series continues March 16 with the Eramosa Brass and March 23 with the U of G Concert Winds led by John Goddard. On March 30, Stephanie Martin conducts the U of G Early Music Ensemble. The concerts are in MacKinnon 107. Admission is free, but donations are welcome.

The U of G Orchestra, conducted by Henry Janzen, and the U of G Jazz Ensemble, led by Prof. Howard Spring, perform March 17 at 8 p.m. at the River Run Centre. Tickets are \$15 and \$8 and are available from the River Run box office or in MacKinnon 210.

The U of G Early Music Ensemble, directed by Stephanie Martin, will present a semi-staged production of Purcell's English opera *Dido and Aeneas* March 24 and 25 at 8 p.m. at the Macdonald Stewart Art Centre. Tickets are \$5 and are available at the door or in MacKinnon 210.

COLLOQUIUMS

First-year MA students in English and drama will present their research findings at a colloquium March 17, beginning at 9 a.m. in MacKinnon 132. Morning topics are "Constru(c)ting Female Bodies and Sexualities," "Historicizing Theatre" and "Emergent, Hybrid and Contested Canadian Identities." Afternoon topics are "Issues in Cultural

and Textual Production," "Theatrical Relations: History, Power, Audience" and "Politics and Method: Reading, Researching, Teaching (for) Others." Everyone is welcome.

The semi-annual Scottish studies colloquium will be held March 18 at 10 a.m. in MacKinnon 117. Admission is free. For details, call Scott Moir at Ext. 3209 or send e-mail to moirs@uoguelph.ca.

CONFERENCE

The Department of Plant Agriculture is holding its 49th annual Muck Vegetable Growers' Conference March 29 and 30 at the Holy Martyrs of Japan Parish Centre in Bradford. Organized by research scientist Mary Ruth McDonald of the Simcoe Research Station, the free conference for growers, researchers and industry will feature the latest production and crop-protection information on onions, carrots and salad crops. For more information, visit the Web site www.plant.uoguelph.ca, send e-mail to McDonald at mrmcdona@uoguelph.ca or to Patricia Flinn at pflinn@uoguelph.ca, or call 905-775-3783.

LECTURES

Austrian art historian Sybille-Karin Moser, a visiting professor in the School of Fine Art and Music, will give a public lecture March 16 at 5:15 p.m. at the Macdonald Stewart Art Centre to officially open a campus exhibit of facsimile reproductions of master drawings from the Albertina Museum in Vienna. A reception will follow. The exhibit is in the U of G Library's Archives and Special Collections until the end of April.

The Department of Philosophy presents Brian Cantwell Smith, a professor of cognitive science and computer science at the University of Indiana, discussing "Transforming the Foundations of Science" March 24 at 2:30 p.m. Location TBA. For more details, call Ext. 6388 or 3888.

Karl Schütz, director of the Gemaeldegalerie Kunsthistorisches Museum in Vienna, will discuss "The Arrangement of the Imperial Gallery by Christian von Mechel 1781: The Birth of the Modern Museum" March 28 at 9 a.m. in MacKinnon 114.

The Raithby Memorial Lecture series presents Colin Whittemore, a professor of agricultural and rural economy at the University of Edinburgh, discussing "There Are No Impartial Scientists" March 28 at 3 p.m. and "Pig-Farming Products: Commonplace Commodity or Select Choice" April 6 at 2 p.m. Both lectures are in OVC 1714.

NOTICES

A retirement reception for protocol officer Joan Barr, who recently retired from the University after 27

years, will be held March 23 from 4:30 to 6:30 p.m. in the Whippetree. RSVP by March 17 to Lucille St. Jacques at Ext. 3789; by fax at 767-1693 or by e-mail at lucille@exec.admin.uoguelph.ca. Anyone wishing to make a donation towards a gift or to submit a card or letter for a book to be presented at the reception should indicate that in the RSVP.

The Data Resource Centre, a service provided by Computing and Communications Services and the U of G Library, will be hosting a Data Liberation Initiative (DLI) training session March 30 to April 1. About 35 data providers/librarians from across Ontario and Quebec will attend, along with representatives from Statistics Canada. Funding is provided by the DLI program through StatsCan. For more information, visit the Web site <http://stats.uoguelph.ca/DRC/DAT/Adli/>.

Retired professors John Bruce, George Todd and Doug Odegard, all former chairs of the Department of Philosophy, present a group exhibition of their paintings March 16 to May 15 at the University Club. The show opens with a reception March 16 from 4 to 7 p.m.

SEMINARS

Tanya Brodeur, a graduate student in the Department of Chemistry and Biochemistry, will discuss "The Application of Spectrally Enhanced Proteins to the Study of Protein-Protein Interactions" March 16 at 1:50 p.m. in MacNaughton 222.

The Department of Microbiology's graduate student seminar series presents Mauricia Matewisch explaining the "Initial Interactions of *Pseudomonas aeruginosa* With Human Bronchial Epithelial Cells" March 17, Emilisa Fridrich discussing "Biological Applications of Mass Spectrometry" March 24 and Linda McKerral considering "Mycoplasma Surface Antigen Variation" March 31. The seminars begin at noon in Food Science 128.

The Department of Economics visiting speaker series continue with Lonnie Magee of McMaster University discussing "Marital Status and Education Level in Canada, 1971 to 1995" March 17. On March 31, Jon Sutinen of the University of Rhode Island considers "ITQs and the Race-to-Fish: A Case Study of the New Zealand Southern Scallop Fishery." The seminars are at 3:30 p.m. in MacKinnon 234.

The Professional Staff Association is sponsoring a free seminar on fitness and nutrition for members. Guest speakers are dietitian Heidi Smith and Cyndy McLean, director of the Health and Performance Centre. Two dates are available — March 21 at noon or March 23 at 1 p.m. The one-hour sessions will be held in

Powell 207. Registration is required by e-mail at psa@uoguelph.ca.

"Applications of a Molecular Pedigree Analysis to Selective Breeding in Rainbow Trout" is the topic of graduate student Gavin McDonald as the Axelrod Institute of Ichthyology's seminar series continues March 21. On March 28, graduate student Marie Clement considers the "Reintroduction of Atlantic Salmon Into Lake Ontario Tributaries." The seminars begin at 1 p.m. in Axelrod 168.

The Department of Physics presents Robert Mann of the G/W Physics Institute at the University of Waterloo discussing "A New Look at the Oldest Problem in Physics" March 21 at 4 p.m. in MacNaughton 113.

The Department of Zoology presents John Vandermeer of the University of Michigan discussing "Rethinking the Intermediate Disturbance Hypothesis" March 22. On March 29, Cathy Pfister of the University of Chicago considers "Individual Variation in Natural Populations: Empirical Patterns and Modern Choice." The seminars begin at 4 p.m. in Axelrod 265A.

The Department of Chemistry and Biochemistry and Department of Microbiology present Phil Thomas of the University of Texas Southwestern Medical Centre at Dallas discussing "Structural Studies of ABC Transporter Function and Dysfunction" March 28 at 11:30 a.m. in OVC 1713.

"Global Warming: Threat or Opportunity? Depends on Where You Are in the World" is the topic of Prof. Barry Smit, Geography, in the Our World speaker series March 28 at noon in UC 103.

SYMPOSIUM

Environmental biology graduate students host a symposium March 23 from 8:45 a.m. to 4 p.m. at the Guelph Turfgrass Institute. The theme is "Diversity in Research: Environmental Remediation to Pest Management." Topics include rose biology, plant physics and ecology, herbicides, toxic organics and bioremediation/chemicals in the environment. For more information, call Sue Wickend at Ext. 8598 or send e-mail to swickend@uoguelph.ca.

TEACHING SUPPORT

The Teaching Support Services workshop series featuring hands-on training in the use of learning technologies concludes with "Introduction to Digital Imaging" March 21 from 10 a.m. to noon. Register online at www.tss.uoguelph.ca.

THEATRE

The drama program's production of *Lion in the Streets*, written by Prof. Judith Thompson and directed by

Prof. Harry Lane, continues until March 18 at the Inner Stage. Performances are at 8 p.m. until Friday and 7 p.m. Saturday. Tickets are \$6 and \$8 and are available at the UC box office or at the door.

A student-directed production of *Mother Tongue* by Betty Quan runs March 26 at 2 p.m. and March 27 to 29 at 8 p.m. at the Inner Stage. Tickets are \$4 at the door.

Drama students present one-act plays March 23 to 25 and March 30 to April 1 at 8 p.m. in Massey Hall. Tickets are \$3 at the door.

THESIS DEFENCES

The final examination of PhD candidate Bernie Brooks, Mathematics and Statistics, is March 17 at 1 p.m. in MacNaughton 222. The thesis is "Turing Instabilities in a Diploid Population With Frequency and Density Selection." The advisers are Prof. Gord Hines and Ross Crossman.

The final examination of Felicia Greer, a PhD candidate in the Department of Human Biology and Nutritional Sciences, is March 21 at 1 p.m. in Animal Science/Nutrition 141. The thesis is "The Impact of Methylxanthines on Muscle Carbohydrate Metabolism." The adviser is Prof. Terry Graham.

The final examination of Suresh Narine, a PhD candidate in the Department of Food Science, is March 23 at 2 p.m. in Food Science 128. The thesis is "Structure and Mechanical Properties of Fat Crystal Networks." The adviser is Prof. Alejandro Marangoni.

The final examination of PhD candidate Leslie Ann Rye, Zoology, is March 27 at 9 a.m. in Axelrod 265A. The thesis is "Analysis of Areas of Intergradation Between Described Subspecies of the Common Garter Snake, *Thamnophis sirtalis*, in Canada." The adviser is Prof. Jim Bogart.

COMMUNITY EVENTS

In response to the recent sexual assaults and attempted assaults in the Guelph area, the Guelph Sexual Assault Centre is offering a series of support sessions for women. Meetings will be held at the centre, 18 Norwich St. E., at 7 p.m. on Wednesday evenings in March and will continue as needed. For more information, call 823-5806.

Leadership Ministries will hold a breakfast business forum and a luncheon April 1 from 9 a.m. to 1:30 p.m. at the Springfield Golf and Country Club. Featured speaker at the forum is Nancy Sullivan, vice-president (finance and administration). Luncheon speaker is Georgie Kearns. Cost is \$29 for one event or \$49 for both. Tickets are available at Everlasting Impressions and the Storehouse Christian Bookstore.



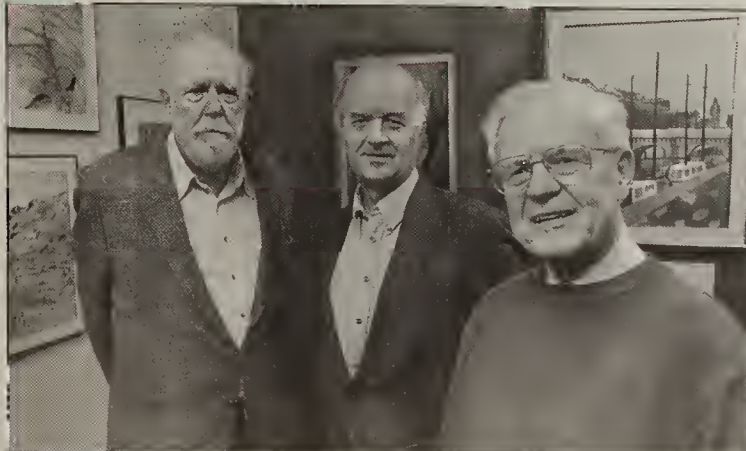
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Art is now a priority for retired philosophy professors John Bruce, left, Doug Odegard, centre, and George Todd.
PHOTO BY MARTIN SCHWALBE

Funding News Raises Concern

Funding will not advance quality and accessibility

THIS MONTH'S funding announcement by the Ministry of Training, Colleges and Universities was met with disappointment at universities across Ontario. The ministry announced March 14 that Ontario university operating grants will increase by \$51.8 million for the 2000/2001 academic year and that undergraduate tuition fee increases will be limited to two per cent a year above the maximum average fee for the previous year, in each year for the next five years. In addition, the government announced that, for the first time, a portion of operating support will be tied to performance and enrolment growth.

The \$51.8 million in increased operating grants includes \$18.8 million in previously announced commitments, including the Access to Opportunities Program and the Fair Funding for Universities program. The remaining \$33 million in support consists of the following:

- \$16.5 million for an accessibility fund for which universities will qualify based on undergraduate enrolment growth from the 1999/2000 to the 2000/2001 academic year, including the impact of flow-through; and
- \$16.5 million for a new performance fund that will be distributed based on an institution's performance in the following areas: graduation rates and graduate employment rates both six months and two years after graduation.

Systemwide, these two new funds amount to a two-per-cent increase in 2000/2001 funding.

"The announcement on operating grants is clearly disappointing on many levels," says president Mordechai Rozanski. "It doesn't advance the interests of either quality or accessibility at Ontario universities. It doesn't come close to dealing with all the years of cuts we've had to sustain, let alone allow us to respond to the increased demand for university spaces expected over the next decade. It is not enough to do the job we have to do

Continued on page 10

Dwivedi Named to Expert Panel

Seven scholars will report on government reforms, prospects around the world

PROF. O.P. DWIVEDI, Department of Political Science, has been named to an exclusive United Nations panel examining how globalization is affecting governments' ability to serve their people.

Dwivedi is one of seven scholars worldwide selected for the Group of Experts of the UN Program in Public Administration and Finance. Each expert has been assigned a geopolitical sector of the globe to analyse. Dwivedi will cover all of Asia except the Middle East, researching and reporting on government reforms in policies and structures and the future prospects for reform for each Asian nation.

"I was pleasantly surprised and delighted by this appointment," he says. "Generally, scholars from Asia are asked to write about Asian developments, so to be asked to do this as an expert from North America is an honour."

His appointment follows on the heels of his election last year as a Fellow of the Royal Society of Canada and a semester as International Scholar at Loyola Marymount University in California.

Continued on page 2

The Art of Philosophy

University Club hosts exhibition of work by retired philosophy chairs

AN UNUSUAL group exhibition now showing in the University Club brings together the paintings of three retired faculty who have much more in common than talent with a paintbrush.

Profs. John Bruce, Doug Odegard and George Todd are all former chairs of the Department of Philosophy. They shared a professional specialization in the philosophy of art and art theory when they were teaching at Guelph, and each has made the creation of art a retirement priority.

The show runs until May 15 and includes watercolours, oils and oil pastels that reflect the distinct painting style of each artist.

The philosophers' trilogy really began with Bruce, who taught both Odegard and Todd at the University of Western Ontario in the early 1960s and later hired them for Guelph's Philosophy Department, established in 1965. Bruce was chair from 1965 to 1970 and assumed a similar responsibility in the Department of Fine Art for an interim period of a few months. Even then, he was active in writing poetry, sketching and painting.

In 1974, Bruce published a novel called *Breathing Space* that is set in rural Ontario, and his paintings also draw heavily on the Ontario landscape. After retirement, he wanted to engage in more physical work, so he turned from words to stones in an effort to interpret his natural surroundings. On a farm property near Durham, he has built several stone buildings and walls. Photographs of his stonework are included in the University Club exhibit.

The self-taught stone mason says his retirement project "has been a great experience because it turned out to be sort of a counterpart of academic and intellectual life, yet a reflection of similar problems and creative excitement." A philosopher trying to unscramble a particular moral problem is not that far removed from a stone mason encountering complex architectural problems, he says.

Odegard, on the other hand, paints primarily faces — both human and animal — dealing with a variety of topics and themes. The interest dates back to his teenage years when he often drew cartoon strips, but he put away the sketchbook when he started university and didn't pick it up again until his retirement from Guelph six years ago. He followed Bruce as chair of the Department of Philosophy in 1970.

From sketching to painting, Odegard says his drawings gradually became images that seemed to mean something and to capture visually a kind of knowledge. "Artistic endeavour puts you in touch with a kind of reality that is difficult to access otherwise," he says.

His painted faces explore philosophical issues such as the existence of mind, soul or spirit. "As a philosopher, I thought I had arguments that there is a unique spirit in human beings, but you can bring that out more vividly as an artist. I would never admit it as a philosopher, but I think now that there are things you can't express in words."

Odegard has explored faces in several media, but only once has he done an actual portrait — a self-portrait.

"That is an anxiety-filled process," he says, but one that everyone should be forced to do at some time in their life. "When you come out the other side, you've learned something about yourself."

Todd would agree that art, like philosophy, is a demanding pursuit. He adopted the latter after his first year of university when he decided he was not cut out to be a physical education teacher after all, and has been painfully learning the former since he retired from U of G in 1989.

Todd was chair of the Department of Philosophy from 1973 to 1981, then served a term as chair of the Department of Fine Art. He admits that he tried his hand at drawing only when prodded by students who took his courses in art theory and asked about his own artistic endeavours. He first enrolled in a studio drawing course at U of G, then joined a community artists' group, where he says he was eventually forced to pick up a paintbrush.

The problem — and ultimately the best feature — of both experiences was that no one would tell him what to do, says Todd. Like many of Guelph's fine art students, he felt lost at first, but eventually came to appreciate the significance of that freedom. "The freedom of learning for yourself is one of the beauties of art. 'You have to learn it for yourself; there isn't any other way.'"

Most of Todd's work depicts scenes from his travels abroad, and his current efforts are inspired by a recent 20-week sojourn in Ireland.

How great thou art? Visit the University Club to find out.

BY MARY DICKIESON



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SENATE REPORT

University Disappointed With Provincial Funding Announcement

PROVOST IAIN CAMPBELL reported to Senate March 14 on the provincial government's announcement earlier that day about 2000/2001 funding for Ontario universities (see story on page 1). Campbell said that both he and president Mordechai Rozanski, who was attending Association of Universities and Colleges of Canada meetings in Ottawa, were disappointed with the

announcement. Campbell said the University was concerned about the inadequacy of funding to support quality and accessibility and with the focus on certain performance indicators to the exclusion of others. Now that the announcement has been made, however, work is under way to prepare a preliminary U of G budget for 2000/2001 as quickly as possible, he said.

A report for information presented by the Executive Committee about the location of spring convocation prompted discussion on the Senate floor. Prof. Maureen Mancuso, chair of the Department of Political Science and chair of the Executive Committee, said the committee's decision to move spring convocation indoors from Johnston Green to the gold arena was prompted by complaints last year and in previous years about the extremely hot and sunny conditions that graduates, their families, faculty and staff have had to endure. The situation has raised concerns about health and safety and the University's liability, she said.

At the Executive Committee's request, the Convocation Committee reviewed a range of options to provide shelter from sun and heat, said Mancuso, but after weighing the costs and benefits of the various options, it was decided to hold spring convocation in the gold arena. Mancuso said this would not only eliminate concerns about the weather, health and safety and li-

ability, but would also improve efficiency and expand guest capacity.

A number of student senators criticized the decision, saying they had not been included in the consultation process and that they did not want their last memory of the University to be their graduation in a hockey arena. They also said the use of Johnston Green's unique, beautiful and historical setting for convocation sets Guelph apart from other universities. Students suggested a number of alternatives to enable convocation to continue on the green, including the use of tents, moving the June ceremonies to May and staging them in the evenings.

In response, biomedical sciences professor Ken Fisher, chair of the Convocation Committee, and Brenda Whiteside, acting associate vice-president (student affairs), noted that some of the suggested alternatives had been considered in the past but had proven not to be viable because of cost, scheduling problems and other factors.

Campbell asked the Executive Committee to reconvene to con-

sider all the students' suggestions before making its final decision on the location.

In other business, Senate approved a Board of Graduate Studies proposal that a magistristerie program in applied nutrition be created in the Department of Family Relations and Applied Nutrition. The new degree will meet the needs of students seeking entry to the dietetic profession in Canada, combining graduate training in applied nutrition with the internship that is required for the profession.

The Board of Undergraduate Studies presented for information a proposal for a joint programs committee that would be responsible for the degree/diploma programs to be designed for the proposed joint program between Humber College and U of G.

The committee would consist of equal faculty representation from Guelph and Humber, with representatives coming from a range of academic units in each institution.

Dwivedi to Focus on Asia

Continued from page 1

The experts group will meet at UN headquarters in New York in May. From this meeting and thematic reports that Dwivedi and the others are already researching, a composite report including a broad range of recommendations will be made to the UN secretary general. The secretary general will present the recommendations to the UN's Economic and Social Council later this year, and they will also be disseminated to national governments. They will be presented as a resolution to the UN General Assembly in 2001.

"Given the theme of this group of 'Globalization and the State,' O.P. is ideally suited to contribute to the discussions," says Prof. Maureen Mancuso, chair of the Department of Political Science. "His invitation to participate is further recognition of the esteem in which he is held by

the international community. We look forward to hearing about his UN experience and the insights he gains from participating in the process."

Dwivedi's focus will be on how the developing nations of Asia are coping with globalization. His early research shows that the western impetus to apply market principles to public administration, including outsourcing and the drive to shrink and decentralize government bureaucracies, is not easily transferable to some of the poorer nations of Asia.

"The result in some countries where they have attempted to follow the western model of new public management is increased poverty, unemployment and human deprivation," he says.

Dwivedi favours a different approach, one that would incorporate

some of the new management principles, including closer public- and private-sector ties, but would also revitalize governing institutions and reprioritize state policies so that they address first and foremost poverty alleviation of the citizenry. Dwivedi calls this "a pro-people culture of governance — responsive, responsible, transparent and accountable."

BY ALEXANDER WOOLEY

@Guelph Schedule

Publication Date	Copy Deadline
April 12	April 3
April 26	April 14
May 10	May 1
May 24	May 15
June 7	May 29
June 21	June 12

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SALARY DISCLOSURE SET FOR MARCH 31

Names and salary information for 48 U of G employees who earned \$100,000 or more in 1999 will be made available March 31, as required by the Public-Sector Salary Disclosure Act. The 48 names represent 1.9 per cent of regular full-time University employees. A copy of the 1999 list can be picked up on or after March 31 at the reserve desk of the McLaughlin Library and at Communications and Public Affairs on Level 4 of the University Centre. The Ministry of Finance will post the province-wide listing for all public institutions on its Web site, accessed through gov.on.ca.

NOMINATION DEADLINE FOR COMMITTEE EXTENDED

The deadline for nominations for membership on the selection committee for the position of associate vice-president (academic) has been extended to April 7. To be chaired by the provost, the committee will include one dean, three tenured faculty members from different colleges, one student and one regular full-time staff member. Nomination forms may be obtained from the Senate office on Level 4 of the University Centre, Ext. 6760.

GFTC TRADE SHOW APRIL 27

The Guelph Food Technology Centre (GFTC) will hold its annual trade show April 27 from 9 a.m. to 4:30 p.m. at the centre. Exhibits and presentations will focus on how innovations today will affect the industry tomorrow. GFTC applied research scientist Gaurav Tewari will give the keynote address on "Trends in Food Processing and Preservation." Presentation topics include "Hemp: Misunderstood Gold Mine," "Trends in the Confectionery Industry" and "GMOs: Nightmare or Opportunity?" Cost is \$15 for GFTC members, \$20 for non-members, and must be paid by April 20. For information or to register, call Alistair Honeyford at 821-1246, fax to 836-1281 or send e-mail to gftc@uoguelph.ca.

MCLAUGHLIN LIBRARY HOURS EXTENDED DURING EXAMS

During the examination period April 8 to April 19, the McLaughlin Library will be open extended hours as follows: 8:30 a.m. to 1:15 a.m. Monday to Friday and 10 a.m. to 1:15 a.m. on weekends and holidays. Throughout this period, the Veterinary Science Library will be open from 8:30 a.m. to midnight Monday to Friday and 10 a.m. to midnight on weekends. From April 20 to 29, both libraries will be open 8:30 a.m. to midnight Monday to Friday and 10 a.m. to midnight on the weekend. On April 30, McLaughlin will be open from noon to 10 p.m. and Veterinary Science will be closed.

Hope Springs Eternal

Giuliani Memorial Award winner won't let obstacles get in the way of her dreams

HOPE ENGEL, this year's winner of the Tara Lynn Giuliani Memorial Award, got her name at her sister's suggestion. Born prematurely at only 25 weeks, Engel wasn't expected to live. She says her sister told her parents that "you have to name her Hope, because we hope she will live."

Since then, the fourth-year English student has had to rely on hope more than a few times in facing various obstacles: a severe hearing impairment, life-threatening kidney failure that necessitated a transplant eight years ago, and a recent hip operation that left her unable to work and meant she was just "getting by" on OSAP support.

"I feel honoured," says Engel of the \$500 Giuliani scholarship for applicants registered with U of G's Centre for Students With Disabilities (CSD). "There are a lot of people here who probably deserved it more than I did."

The award was established in 1995 by the family of former student Tara Lynn Giuliani of Burlington, who lost her sight a few years before she died at age 25 from juvenile diabetes. To qualify for the award, a student must have a disability, must demonstrate serious financial need and satisfactory academic progress, and must show a commitment to completing a program of studies. Preference is given to students with a visual impairment.

CSD adviser Trudy Smit Quosai notes that although Engel does not have a vision disability, she volunteers with the CSD as a sighted guide for students with vision disabilities and spent summers working at the Canadian National Institute for the Blind (CNIB) camp.

"The award recognizes Hope's dedication to social responsibility and individual equity," says Smit Quosai. "She has been an asset to the Centre for Students With Disabilities and the campus community since she arrived at Guelph — as a sighted guide, a Recreational Equity on Campus Club volunteer, Safe Walk volunteer, Raithby House volunteer, student ambassador . . . the list goes on. She is an inspiration to staff and students alike."

Engel's campus involvement also includes volunteering with the Women's Resource Centre and serving as a board member and housing representative with the Guelph Campus Co-operative. Off campus, she has done volunteer work at the Homewood Mental Health Centre.



Hope Engel

PHOTO BY MARTIN SCHWALBE

"Most of my volunteer work and leadership training have been in advocacy work for making education accessible and for creating safe spaces for people who are marginalized," she says. "I got this award because I do care about people — I care about what's going on in their lives. It means a lot when people do that."

Engel was diagnosed at age four with a severe bilateral hearing impairment. Even with hearing aids, she has trouble distinguishing background noises and low-pitched sounds and has to sit at the front of the classroom to hear her instructors properly.

In 1992, she received a kidney transplant after suffering life-threatening kidney failure. For several years, she had attended a CNIB summer camp equipped for youngsters on dialysis. It was after she became a counsellor herself and was contemplating university studies that someone at the camp spoke glowingly of Guelph's Centre for Students With Disabilities. Offered a scholarship to attend another university, "I turned it down because of the facilities here," she says. "I'm really glad I did."

She entered Guelph in 1995, still on crutches recovering from an earlier hip operation. The repeat operation late last year was meant to relieve chronic pain, a side effect of the powerful immunosuppressants she must take to prevent her trans-

plant from being rejected. The operation also meant she had to reduce her course load this semester and give up a work/study position, one of several she has held across campus since coming to Guelph.

Engel had initially considered international development or child studies for a career in teaching or social work. Although her English studies have sparked her interest in literary theory, she plans to pursue a master's in rural extension studies.

One of 10 children, she spent her high school years in Toronto with her mother and siblings. Sketching the financial problems she has wrestled with throughout university, she says the Giuliani award comes at an opportune time. "I've really had to depend on these kinds of things to get through."

Despite the obstacles, Engel says she's always dreamed of going to university. "It was the only way for me to achieve a life of self-sufficiency and follow my dreams of creating and living in the kind of world I wanted to live in. For me, education is not separate from personal growth. It is not just about getting a job or being successful on other people's terms. For me, it is a challenge to find out who I am, what unique abilities I have and how I can use these abilities to be my greatest self and help other people see their own potential."

BY ANDREW VOWLES

PEOPLE

SOLOMON ELECTED FELLOW

Environmental biology professor Keith Solomon, director of the Centre for Toxicology, has been elected a Fellow of the Academy of Toxicological Sciences. He is only the fourth Canadian elected to the academy since it was established in 1981 to honour and certify toxicologists who have achieved peer recognition for their expertise in sound scientific judgment. The academy particularly recognizes service to science and the public. Solomon has been active in public education at many levels and has served on a number of national and international advisory committees on toxicology-related areas. A graduate of Rhodes University and the University of Illinois, he joined the faculty of U of G in 1978.

PHILOSOPHER GIVES TALKS

Prof. John McMurtry, Philosophy, gave an invited lecture on "The Mardian Paradigm: A Critique," sponsored by King's College and Dalhousie University's Department of Philosophy, and a paper on "Philosophy, The Global Crisis and the Life-Ground" to Dalhousie's Philosophy Department. He also gave the keynote address to the Queen's University Faculty of Education's Conference 2000, speaking on "Education, Values and the Global Economy," and presented a conference seminar.

GRAD HONOURY WITH KING CLANCY AWARD

1996 U of G graduate Stephanie McClellan, who visited the Guelph campus last summer as part of her marathon journey wheeling from Vancouver to Ottawa to promote awareness of disability issues, was presented with a King Clancy Award in February at a gala reception in Toronto. The award recognizes achievements on behalf of people with physical disabilities.

HUMAN BIOLOGIST TO HEAD PHYSICAL THERAPY

Retired human biology professor John Brooke has been appointed chair of the Department of Physical Therapy and Human Movement Sciences in the medical school at Northwestern University in Chicago. Brooke, who first joined U of G in 1975 as director of the School of Physical Education and became the first director of the School of Human Biology in 1977, joined Northwestern March 1.

POEMS WIN TOP PRIZES

Three of five prizes in the Bookshelf's inaugural poetry competition went to members of the College of Arts. The top two prizes went to creative writing students in the School of Literatures and Performance Studies in English — Alison Pick for her poem *The Weather Change* and Suzanne Hancock for *Letter From Cape Breton*. Third prize went to Prof. Stephanie Nutting, Languages and Literatures, for her poem *Trust*. The poems were published in the March/April 2000 issue of *Off the Shelf*.

Grad Students Explore Philosophy

THE DEPARTMENT of Philosophy presents its annual graduate student symposium April 7, beginning at 10 a.m. in Room 238 of the MacKinnon Building.

MA students will present papers on a variety of topics — "Psychiatry and Questions About Minds," "Philosophical Suggestions on Mul-

ticalism," "An Ethical Focus on the Business of Dying," "Should the Artist be Amoral?," "Is Martyrdom Morally Justifiable?" and "Are Labour Unions Morally Desirable?"

Symposium organizer Prof. Jean Harvey says the symposium poses a challenge for participating students because they aren't allowed to in-

clude standard philosophical dialogue, their topic must be appealing to a wide variety of people or take an interdisciplinary approach, and they must be prepared to answer questions from the public.

Harvey encourages all members of the University community to attend the talks.

D&PA Restructuring Begins to Pay Off

Academic areas benefit from increased giving in 1999

FACULTY AND STUDENTS in the College of Biological Science have money to spend that they didn't have a year ago.

CBS dean Bob Sheath says his college received considerably more funding from the 1999 annual giving program than in any previous year. The extra dollars are being used to provide additional graduate student assistantships, build an undergraduate scholarship and provide upgrades to facilities and equipment.

Total giving to U of G in 1999 was \$11 million, 30 per cent higher than in 1998, says John Mabley, vice-president (development and public affairs). "That alone is good news," he says, "but the results reported by dean Sheath — and other college deans across campus — can also be traced to the spring 1999 restructuring of U of G's fund-raising programs."

A year ago, the University adopted a new campus-wide approach to the planning and implementation of fund-raising initiatives. Senior development managers were moved into the colleges to serve as strategists and to form a direct link between Development and Public Affairs (D&PA) and faculty, staff and students in the colleges.

Sheath says the decentralized plan is paying off. CBS has developed a series of targeted programs that give donors a better idea of what the college and its students need. "We've entered a game in which we weren't

really a player before," he says, acknowledging that he now has daily contact with D&PA through senior development officer William Rowe, who works with both CBS and the College of Physical and Engineering Science.

Providing the same link in other colleges are Bruce Hill, College of Arts; Tim Mau, College of Social and Applied Human Sciences; Paulette Samson, Ontario Agricultural College; and Laura Manning, Ontario Veterinary College.

These professionals work with Rudy Putns, executive director of campaign programs, Annual Fund manager Tara George, Ross Butler, director for planned giving, and other staff in D&PA to identify fund-raising opportunities and translate them into institutional support, says Mabley.

Putns says the team goals for last year were "to attract new donors and volunteers and to nurture the Annual Fund to a new level of giving, while beginning a feasibility study for the University's next capital campaign. We also added more than 1,000 new donors last year, and the Annual Fund volunteer team attracted 15 new members."

D&PA also laid the groundwork for a new peer solicitation program in which alumni volunteers will make face-to-face calls on other annual giving prospects. The program will be expanded through the University's donor club recognition program, says Putns. Donor clubs

recognize six levels of financial support, from less than \$100 a year to more than \$10,000 in annual giving. "We are recruiting volunteers for each level of giving to help us identify and canvass potential members," he says.

"Among our loyal donors, there is a growing awareness of the University's need to increase annual giving," says Putns. "We see that in 1999 fund-raising results, where donors gave to college priorities as well as traditional areas of support such as the library, athletics and student assistance."

The Arboretum and OVC's Pet Trust are other areas that rely on a loyal donor base, and both experienced close to a 50-per-cent increase in support last year. Under the direction of Mair Pratschke, senior manager of OVC public relations and development, Pet Trust received more than \$640,000 in gifts and added 1,000 new donors. Arboretum director Prof. Alan Watson led fund-raising initiatives at that facility to a new high of \$298,184.

Media attention to the financial difficulties faced by students today has drawn particular attention to the need for universities to increase student assistance programs, says Putns. Increased awareness on the part of donors and the opportunity to double gifts through government matching programs (U of G ACCESS campaign) has enabled the University to dramatically increase its endowment for student assistance

over the past few years. Annual expenditures for student assistance have grown by more than 500 per cent since 1991.

Putns says the University is also seeing increased giving in response to government matching programs in other areas, including research support and infrastructure needs. For example, the Ontario Graduate Scholarships for Science and Technology program offers a two-to-one government match, and U of G success in major infrastructure programs like the Canada Foundation for Innovation and the Ontario Research and Development Challenge Fund is dependent on up to one-third matching support from the private sector.

"Matching programs offer a strong incentive to concerned donors," says Putns.

Telling donors about these opportunities is a D&PA priority and often becomes the focus of efforts in telemarketing. Over the last year, the call centre located in Alumni House has doubled its student workforce from 35 to 70 callers and expanded calling times to five days a week year-round, including weekends. Under the direction of supervisor Patrick Abdul, the phone program seeks support primarily from alumni and the parents of current students.

The U of G parents' program recently welcomed as volunteer leaders David and Carolyn Mackereth, telemarketing consultants who run a business in Mississauga. Their

daughter, Niki, is one of the student callers in U of G's phone program.

A special Annual Fund initiative last year was the production of a millennium calendar mailed in November, and the year 2000 will see the final stages of development of an online giving option that will allow supporters to make a donation over the Internet. In 1999, more than 150 individual classes participated in the University's annual class agent program, as well as special graduation and reunion projects. Putns says efforts in all these programs will intensify as the volunteer base in fund-raising continues to grow.

Although volunteers are the key to continued success in annual giving programs, they will also provide the kind of leadership giving required to reach capital campaign goals — a priority that is top of mind for Board of Governors member Tony Arrell, a 1967 Guelph graduate and CEO of Burgundy Asset Management Ltd. in Toronto, who is chair of the University's campaign steering committee.

"A capital campaign needs many volunteers, and our success will depend on our ability to get people excited about the University of Guelph and involved in building its future," says Arrell. "Last year, we asked the deans in each college to identify their most pressing needs, and now we are in the final stages of a feasibility study that will help us build a detailed campaign plan."

BY MARY DICKIESON

New Test Could Save Spuds from Premature Death

Half of all potato losses in Ontario stem from verticillium infection

A DEVASTATING DISEASE that causes half of all potato losses in Ontario could soon be controlled, thanks to a quick diagnostic test being developed at U of G.

Profs. Jane Robb and Ross Nazar, Molecular Biology and Genetics, are working with Ali Khan of the Department of Plant Agriculture to develop a detection method for the verticillium fungus, which causes what's known as "early dying syndrome" in potatoes.

Infected plants are characterized by stunted growth and wilting leaves, followed by yellowing and, eventually, plant death.

The researchers are applying a technique called the polymerase chain reaction (PCR) for early and definitive diagnosis of verticillium infection. Three verticillium species, which are soil-bound pathogens — along with a nematode called *Pratylenchus* — work together to cause the disease.

"Early dying syndrome causes major crop losses to potato growers in Ontario and around the world," says Robb. "It's crucial for us to find ways of detecting the fungus early on before disease sets in."

Traditional methods have been unable to effectively detect and fight

verticillium infection of potato crops, she says. Developing resistant potato lines, testing soil samples and applying pesticides are all typical avenues for fighting plant diseases. But these methods have proven to be unreliable and impractical against early dying syndrome, mainly because of the absence of a good diagnostic test.

Because verticillium resistance in the potato depends on a number of genes rather than a single gene, Robb says it's difficult to breed a resistant line. And it's impossible to visually determine resistant plants because tolerant plants, which are infected but show no symptoms, look the same.

Screening soil samples for the three verticillium species takes time, and farmers don't always have enough time to spare before planting. What's more, the most effective pesticide against the fungus has been banned in Canada because it's a potent environmental toxin.

So Robb and her colleagues are pursuing a new detection method based on molecular genetics. Here's how it works. PCR screens a soil sample for the presence of verticillium genetic material (DNA). It then amplifies any verticillium DNA



Prof. Jane Robb, right, and research technician Barbara Lee are developing a diagnostic test that could help fight a serious potato disease.

PHOTO BY MARTIN SCHWALBE

found in the sample and assesses the level of the three pathogenic species, based on their individual DNA makeup. Verticillium DNA is found only in diseased and tolerant plants, so samples can be quickly screened and truly resistant lines can be selected for breeding.

"The economic impact of this

technology will be felt not only in Ontario, where early dying syndrome is a major potato disease, but also on national and global levels," says Robb. "Many countries won't import seed tuber unless it's guaranteed verticillium-free."

Hanhong Dan, a former graduate student, and research technician

Barbara Lee were also involved in this work. This research is sponsored by Agriculture and Agri-Food Canada, the Ontario Fruit and Vegetable Growers' Association and the Ontario Ministry of Agriculture, Food and Rural Affairs.

BY CAIREEN RYAN
OFFICE OF RESEARCH

Students Bound for Venezuela

Program offers aid to underdeveloped countries



These 10 Guelph students are Venezuela-bound this May to lend a helping hand to flood victims. PHOTO BY MARTIN SCHWALBE

RECENT FLOODS and mudslides in Venezuela that have killed an estimated 30,000 people and left some 600,000 homeless have sharpened the focus for a group of U of G students who've been planning a cross-cultural trip to the South American country since last fall.

The 10 undergraduates are participating in a program run by the Global Youth Network that sends university and college students to underdeveloped countries for a month each year to provide a variety of services, including working with street children, helping in schools and orphanages and assisting in medical clinics. On this trip, however, the Guelph students expect to spend the month delivering food and helping Venezuelans rebuild their lives in the flood-ravaged area around the capital, Caracas.

"We decided we wanted to change the focus to greater encompass relief efforts," says Jeff Ramlogan, a fourth-year microbiology co-op student and a member of U of G's Board of Governors.

The Guelph team travelling to Venezuela will be one of seven groups of Canadian students working in underdeveloped countries this May through the Global Youth Network program. The network is a branch of Youth with a Mission, a Christian humanitarian organization that began in 1960.

The program, which began at McMaster University five years ago, will see teams of students from six universities and one college travel to countries in South and Central America, as well as Macedonia. Although this is only Guelph's first year in the program, more than 20 students applied last fall. A second U of G team will travel to Honduras.

For many students travelling to either country, these treks will provide their first taste of international development work.

"I'm looking forward to a learn-

ing experience and a changed view of the world," says second-year child studies student Laura Harte. She has volunteered at soup kitchens and the campus day-care centre, but this will be her first experience overseas. "I know I will gain a greater appreciation for things here," she says.

Fourth-year nutritional sciences student Andrea Thomas says that after spending close to four years at Guelph focused primarily on her studies, "I feel like I need to do things for other people."

Ramlogan gained some international experience in high school when he spent a month in India working with people with leprosy and tuberculosis at Calcutta's Missionaries of Charity, run by Mother Teresa.

"I was completely overwhelmed by the passion she displayed for the work she was doing," he says, recalling how this "small, frail woman" exuded physical and mental strength. "She was such a great woman, but her power can't be explained."

This year during reading week, he travelled to Florida to help on a building project for Habitat for Humanity.

Ramlogan says the Venezuela mission meets several U of G learning objectives and meshes with the University's strategic direction of internationalism. He plans to make presentations about the mission back here at Guelph and will share information through the Centre for International Programs.

Guelph participants must pay their own airfare, roughly \$2,250 per student. They are holding various fund-raising events, including raffles, bake sales and pizza sales.

For more information, call Ramlogan at Ext. 2292, send e-mail to jramloga@uoguelph.ca or visit the Venezuela team's Web site at www.axiom-studios.com/Venezuela.

BY ANDREW VOWLES

Housing Web Site Opens Doors to Accommodation

U of G working with city and local developers to find additional housing

STUDENTS LOOKING for off-campus housing can now do it online. As of this month, the Off-Campus Housing Office is posting all its listings on a special Web site designed to allow students to check on available housing from as near as their rooms in residence or as far as anywhere in the world.

The timing of the Web site launch is not happenstance, says Blair Capes, assistant director, Housing Services and Family Housing. Students and prospective landlords should both be planning their fall accommodations now, he says.

"There are two reasons. One is to avoid the end-of-summer hassles, but perhaps more important is the fact that many landlords have switched to May to April leases rather than September to August. That means this is when the selection is likely to be greatest, so students should be looking now."

U of G's campus residences and family housing sites accommodate some 4,600 students, which means that more than 9,000 students live off campus each year. With the low vacancy rates in the Guelph housing market and a limited number of spaces in on-campus residences, Capes expects the housing situation to be tight this September, as it has been for the past several years.

U of G has responded with a planning process to meet some of the current demand and also future increased demand as a result of the increased cohort. The response includes construction of a new townhouse-style campus residence, due to be completed by fall 2001, which will have places for 660 students.

Brenda Whiteside, acting associ-

ate vice-president (student affairs), is issuing a call to the community to open their doors to students seeking accommodation for this fall.

"We are working with the city and local developers to see if we can find additional housing," says Whiteside. "At the same time, we are very grateful to our community members who already take in students. Many have commented to me that it is a pleasure to rent to students. I hope their experiences as well as their example will act as an incentive for others in the community to consider providing housing for our students."

The new Web site is just one of several services the Off-Campus Housing Office provides to encourage landlords to rent to students.

"We also refer and advise prospective landlords on fire and building codes, the lodging house bylaw and any other applicable regulations," says Capes. "Our enhanced services include being able to pay the nominal listing fee over the phone, by credit card. Our aim is to increase the number of listings we have, to assist and advise potential landlords so they can provide safe, comfortable, desirable housing for students."

He emphasizes that meeting the off-campus housing challenge is as much about quality as quantity. "I would hope to get the message out to the local community about the kinds of housing students prefer. Generally, our students are under more pressure to do well in school than in the past. More often their academic schedules are tightly structured, and very often they are also holding down a job. The result is that many need and prefer housing where they

are on their own and can prepare their own meals and where they can work towards their degree without undue distractions. That means individual apartments or houses and townhouses where the other occupants are also students."

Students are less inclined to live with a family or take a room in a home. Capes advises landlords who may have these sorts of accommodations available to consider creating a single-bedroom "in-law" or sectioned-off apartment for a prospective student tenant.

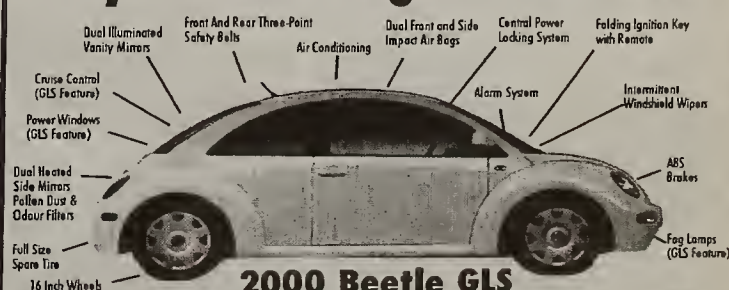
Conversely, he says students need to be flexible when searching for accommodation. "We always have housing available, but sometimes it doesn't match the three criteria students look for — what they want, where they want and at a price they want. That's a tall order. Most students want a home that is within a 15-minute walk of the University. A lot of the time, that just isn't possible. Flexibility is needed."

The new Web site will mean students don't have to physically visit the postings boards on campus, and during the summer will be able to check on accommodations even if living far from Guelph. In addition to the current peak in accommodation listings, Capes says there should be another surge in listings in early July, for leases that begin Sept. 1.

The off-campus housing Web site is located at www.housing.uoguelph.ca/ocho. Landlords interested in listing with the Off-Campus Housing Office should call Ext. 3357. There is a listing fee of \$20 a month per property, as well as flexible annual fees.

BY ALEXANDER WOOLEY

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PRESERVING DIVERSITY

"Few indigenous societies have withstood the onslaught of western culture."

BY PAUL COX

Editor's note: Paul Cox, director and CEO of the National Tropical Botanical Garden in Hawaii, was awarded an honorary doctorate of science by U of G Feb. 23 during winter convocation. Cox, who studies the medicinal and health effects of chemical compounds produced in plants, gave the following convocation address to graduates of the College of Biological Science.

WHEN I FIRST MET Epenesa Mauigoa, she seemed unremarkable — a diminutive 73-year-old who tended her infirm husband in their modest fale or hut on the outskirts of Apia, Western Samoa. True, some of the plants growing in her garden were unusual, but I didn't expect anything extraordinary during my first interview with her.

Did she know anything about herbal medicine, I asked respectfully. "I know a little," Epenesa quietly replied. Then for the next three hours, as I rapidly typed on my laptop computer, she related the most detailed account of Samoan herbal medicine I have ever recorded. By the end of our sessions several weeks later, she had taught me the details of 121 different herbal remedies she carefully mixed from 90 different species of flowering plants and ferns.

The 37th remedy Epenesa told me about caught my attention. She claimed to be able to treat "fiva samasama," a term used to describe hepatitis. "E fasi oga'a au o le mamala moni," she said in her quiet but elegant Samoan. "Take the stem wood of the true mamala tree (which botanists call *Homalanthus nutans*). Boil it and pour off the water. The person who is ill should drink it twice a day."

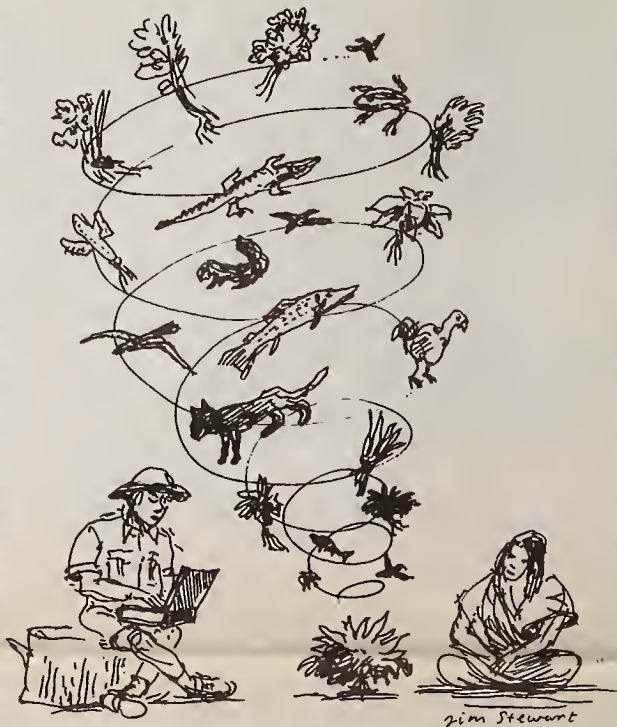
Ethnobotany is the study of the uses of plants by indigenous people. When I began my ethnobotanical research on Samoan medicine in the mid-1980s, some colleagues warned that my interest in traditional culture might blight an otherwise promising scientific career. Why should I waste my time studying with shamans and witch doctors?

From a historical perspective, those colleagues were on solid ground. The explosion of scientific knowledge during the last two centuries will probably be regarded by future historians as one of the most significant human events of the past thousand years. To some colleagues, evaluating folk remedies for efficacy was tantamount to turning back the clock to the Dark Ages. Accounts from the end of the previous millennium, such as *The Julius Work Calendar*, chronicle technological innovations like the metal plow, but are also imbued with folk knowledge from an era when trolls, fairies and personification of the elements, such as Jack Frost, were thought to play important roles in determining the course of human life. In our modern era, when science has largely replaced superstition in explaining the causes of disease, the nature of meteorological events and the sources of astronomical phenomena, why should ethnobotanists, anthropologists and linguists struggle to document folk knowledge in remote parts of the world?

On one point there is agreement: traditional knowledge systems are vanishing. Linguist Michael Krauss suggests that half of the 6,000 or so languages spoken at the beginning of the 20th century have now disappeared forever, along with the cultures they once kept alive. Of those languages that remain, 80 per cent are spoken only by small groups of elders.

Consider, for example, the Gosiutes, an Amerindian tribe of several hundred people clustered in two small reservations in Utah and Nevada. Fluent speakers of the language number less than 20. When those last 20 Gosiute speakers die, their language and much of their culture will disappear forever. Why, on the cusp of a new millennium, should each of us care?

Among the 20 are elders whose experience as little children was extraordinary. They were raised as bunter-gatherers in the high deserts of the Great Basin. The desert life they describe



from their childhoods was not, however, one of deprivation. In listening to their stories, I get the sense that for them the world was a giant candy store. As little children, they were taught to demarcate seasons by the flowering times of different plant species. Through their tracking of a diverse palette of edible roots and tubers, a desert habitat that might appear to us as desolate or foreboding was for them transformed into a moveable feast. There were distinct times to harvest sego roots or cattails or pine nuts or a multitude of other plant species.

"The world needs you. Please seek to treasure, preserve and foster diversity, whether it be cultural, biological or religious diversity. All of us benefit from living on a diverse planet."

Unlike agricultural peoples, dependent on a few crops, the Gosiutes could rely on many different plant and insect species for nourishment. Much like the ancient Hawaiians, they knew how to produce all their food, shelter, clothing and medicine from nature. Their grandchildren, however, have scant interest in learning this traditional knowledge. As one aged Gosiute matriarch sadly told me, her grandchildren would rather watch television. Although modern technology has yet to produce a single book or audio tape in the Gosiute language, by my count, more than half the Gosiute dwellings sprout TV satellite dishes.

This demise of indigenous knowledge systems is global. Whether due to the touted superiority of western technology and pharmaceuticals to their indigenous equivalents, the introduction of money to facilitate the conversion of rain forests into goods of western manufacture, or simply the siren call of blue jeans, Coca-Cola and hip-hop music to young people throughout the world, few indigenous societies have withstood the on-

slaught of western culture. Yet, it is clearly in the interests of western societies to help protect indigenous cultures.

If you were to walk into any pharmacy in Toronto and take any prescription bottle off the shelf, there's a one-in-four chance that the medicine you hold in your hand comes from a plant — a plant developed from traditional medicine. In China, Nigeria, Thailand and Mexico, up to 85 per cent of the people depend directly on plants for their primary health care. Is it possible that new drugs and healing properties can be discovered from plants?

Consider, for example, the plant that Epenesa Mauigoa told me cures *fiva samasama*. Other healers confirmed her report that *Homalanthus nutans* was useful in treating hepatitis. Soon a team at the U.S. National Cancer Institute (NCI) found healer preparations of *Homalanthus* to be active against a very different species of virus — HIV-1 — and discovered a new anti-viral drug called prostratin. The U.S. government has guaranteed that half of all royalty income from prostratin will go back to the people of Samoa. This is one of the first formal legal recognitions of indigenous intellectual property rights. Unfortunately, despite its promise, prostratin still languishes as one of several interesting lead compounds that have not been picked up by pharmaceutical firms for clinical testing. Ethnobotanically, however, the significance of the NCI discovery is clear. An indigenous claim of efficacy of a plant used in traditional medicine had been substantiated in a laboratory setting.

It was soon after the discovery of prostratin that loggers arrived in Falealupo Village. They began to clear-cut the rain forest where I first collected *Homalanthus nutans*. The village, required by the government to pay for a new school, had no recourse but to accept the logger's offer of \$1.83 an acre for their 30,000-acre rain forest. Fortunately, with courageous leadership on the part of the village leaders and the assistance of outside donors, funds were raised to pay for the school and protect the forest.

Too often, however, forests and plant species disappear with little notice. In Hawaii, more than half of all native plant species are threatened with extinction. When they vanish, what undiscovered medicines will vanish with them? Each one of the beautiful plants in Hawaii deserves to live. I am very proud at the National Tropical Botanical Garden to be associated with a team of botanists who will undertake almost any risk — including rappelling down the cliffs of the Na Pali coast — to gather precious seeds so that endangered species can be saved.

Well, enough of a biologist's musings. What useful message can you take with you from these remarks?

First, you have directly benefited from cultural diversity in your education at Guelph. Please return this favour by helping to preserve the cultural diversity in your own country, particularly the cultures of indigenous peoples.

Second, many of you will study and work in countries where it is easier to get a permit to clear-cut the rain forest for logging than it is to receive permission to study and conserve plants for their medicinal value. I ask you to support research about the importance of plants and traditional cultures in these countries. Your actions can benefit millions of sick people throughout the world.

And finally, throughout Canada and the world, seek to protect plant and animal species that are in danger of extinction. Worldwide, one out of eight plant species are threatened with extinction. I plead with you to do what you can to protect these fragile organisms. They cannot speak in their own defence. We all must do this for them.

The world needs you. Please seek to treasure, preserve and foster diversity, whether it be cultural, biological or religious diversity. All of us benefit from living on a diverse planet.

IN TOON WITH SCIENCE

Computing technician (aka Dr. Iguana) draws on cartooning skills to poke fun at world of science

By Andrew Vowles

TODAY, he's the mild-mannered computing technician for the Department of Chemistry and Biochemistry. Tomorrow, however, Uwe Oehler might become a science cartoonist or a designer of academic conference software or a PC gamer — or even Bill Gates. If variety adds spice to life, then Oehler's varied pursuits must season his days like hot sauce on a taco. Says Oehler, also known as Dr. Iguana: "I'm pretty much a chameleon."

First things first. Why that moniker? Oehler shrugs, seems momentarily tongue-tied. "I have a fascination with what people perceive as beautiful and attractive," he says at last. Flicking a glance at the reptile perched atop the computer monitor in his basement office, he says: "I think their very ugliness makes them interesting."

Not that he'd ever have one as a pet. That lizard on his computer is as polymer-based as anything concocted in the laboratories upstairs in the Chemistry and Microbiology Building. "They're beautiful," he says, "but they're not smart enough to get their own lunch, so they'd probably starve at my house."

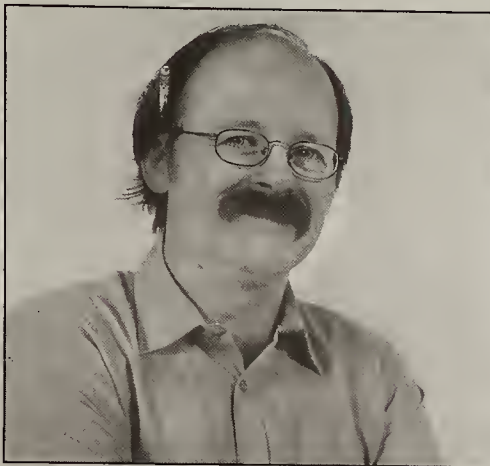
Rather, it's that eye-of-the-beholder idea, says Oehler, whose occasional observations of the creatures' courting activities reveal that beauty is as relative a thing for iguanas as for, well, people. "It's like cartoons — it's looking at things from a different point of view and catching that difference."

He began drawing cartoons while studying chemistry at the University of Waterloo. In typical enterprising fashion, he even put the two disparate worlds together by penning cartoons that ran regularly for four years in a newsletter published by the chemistry department.

At Waterloo, he took studio courses in fine art to round out his science schedule. He soon recognized a gap separating him from many of the other students and their instructors. "They emphasized unbridled creativity over any kind of technical skill," he says. "Personally, I think you have to balance the two."

One instructor praised his technique but remarked that his creativity appeared to be "stifled." Since then, Oehler has perfected his craft on his own. Not that he considered his work superior, particularly those early attempts. "They looked godawful," he says, adding that "it's amazing how much a little bit of practice will improve your ability. That probably pertains to a lot of skills people think of as talents."

Oehler is the first to admit that he falls down in the practice-makes-perfect realm. "I don't know how Charles Schulz could do it every day and still bring something new to the strips," he



says of the cartoonist who died early this year after a 50-year run with the *Peanuts* comics. "For me, that would be a mind-numbing obligation."

Although anything might serve as a subject, much of Oehler's work still consists of science cartoons. Predictably, his role model is Gary Larson, whose works would probably be found to outnumber those of any other cartoonist in the corridors of the typical university science department. Waving to a *Far Side* classic on his own door, Oehler says: "He's a god."

Conceding that he hasn't spent a lot of time at the drawing table in recent years — "You dust it off now and then" — Oehler says that what sparks a cartoon is often an incident or a comment that strikes him aslant. "It just pops into my head like capturing a dream when you wake up."

If he manages to catch the moment, then the resultant piece will have a similar effect on the reader. "A good cartoon will catch you by surprise. It's like telling a joke. You have to have timing. The moment itself has a 'sparkliness' to it that makes it funny."

A sense of humour is obviously helpful, but more important to Oehler is a wry take on life. He notes that even Schulz often relied less on eliciting hoots of laughter than on tweaking an ironic nerve in readers. Pointing to one of his own cartoons showing rats emerging from a bottle of chemical reagent, Oeh-

ler says he wanted to gently prod readers' minds about the use of animals in research.

At other times, there's no subversive message at all. "Sometimes it's just chaotic fun, just putting a little smile on someone's face who is perhaps too serious."

He's found that what's funny to readers can be as relative as iguana mating preferences. "I've done a couple that were pretty esoteric," Oehler says, pointing to works he did for a publication for experts in nuclear magnetic resonance (NMR). One depicts a lab scientist reclining on a couch, with a wordplay on the NMR researcher's understanding of "horizontal relaxation." Another shows a scientist fetching a cold drink from a cryomagnet. "The average person would say, 'I don't get it,'" says Oehler.

He has posted some of his favourite comic creations on his eclectic departmental Web page, alongside a portal into the computer game world of *Doom II*. With more than a hint of mischievous glee, Oehler says it was *Doom* that used to spark vociferous parental complaints about violence in computer games. Although he no longer plays, he still receives e-mail from players encountering the home-made levels he designed with department colleagues several years ago.

Oehler came to Guelph for doctoral studies in 1980, then took his current job as computing support for the department. "During my six years in graduate school, PCs just exploded," he says. "The department realized they needed someone in this position. As I'd gotten more interested in PCs, I was a natural candidate."

Drawing on his illustrating smarts, he has used a computer-based graphics package to make posters and other materials for the Guelph-Waterloo Physics Institute and the Guelph-Waterloo Centre for Graduate Work in Chemistry and Biochemistry.

He also runs a part-time business called O'Zone Software, which makes and sells software mostly for academic conferences. Originally conceived by former Guelph professor and longtime friend Richard Oakley, the software allows authors to create and submit electronic abstracts and conference organizers to schedule and print technical programs.

Dr. Iguana hopes to expand that business, although he concedes that he'd probably have to leave the day-to-day operations to someone else. "I like being in on the creation," he says, harking back to his hot-and-cold cartooning style. "I might have to do like Bill Gates and step down as CEO."

PHOTO BY DEAN PALMER/THE SCENARIO

A Watershed Agreement

U of G joins forces with Grand River Conservation Authority on teaching, research, outreach activities

An agreement signed last week at U of G with representatives from the Grand River Conservation Authority (GRCA) is expected to cement joint teaching, research and outreach activities by faculty and students and lead to new collaborative environmental projects with the GRCA in the local watershed. An existing agreement with Credit Valley Conservation, west of Toronto, was also renewed during the signing ceremony.

Last week's ceremony involved Prof. Iain Campbell, provost and vice-president (academic), and several GRCA officials, including chair Peter Krause, chief administrative officer Allan Holmes and Laurie Minshall, manager of watershed resources planning.

Prof. Stew Hiltz, director of U of

G's Centre for Land and Water Stewardship, says the agreements will help streamline joint projects involving both conservation authorities and the University.

Through the agreements, faculty and students will continue to enjoy access to both conservation areas for their research and teaching projects and will be able to influence watershed planning and management. Besides getting faculty help with needed research, the GRCA expects to see better co-ordination of the numerous research and field-site requests it receives routinely from the University.

"The conservation authorities get help with their research needs and the University of Guelph gets help with teaching and research opportunities," says Hiltz, a faculty member

in the Department of Land Resource Science.

An initial agreement between U of G and Credit Valley Conservation was signed in 1996. Since then, numerous faculty from various colleges and centres at Guelph have worked on research and teaching projects around the Credit River.

"One of the reasons we've worked out this agreement with the University of Guelph is because they've had experience in this sort of thing with another conservation authority," says Barbara Veale, GRCA co-ordinator of strategic planning and partnerships.

Hiltz says it made sense to draw up a similar agreement with the local conservation authority, which incorporates Guelph, Kitchener, Waterloo and Cambridge. U of G and the

GRCA began discussions last fall.

He says such partnerships with conservation authorities will probably help in establishing joint projects, such as a proposed research centre in water quality.

Pointing out that the GRCA already works extensively with U of G students and faculty, Veale says the agreement will focus joint research efforts and "help to pinpoint the terms of reference for students' work so they can provide us with research that is useful and applicable to decisions in the watershed."

She says the agreement with U of G will also offer professional development opportunities for conservation authority staff and help the GRCA in its efforts to involve private-sector partners in joint research in water use and quality.

Water quality is the central resource issue in both watersheds, which see intensive farming and development within the regions drained by the Grand and Credit rivers.

Stretching from Lake Ontario northward through Mississauga and Brampton to Orangeville, the Credit River watershed covers 1,000 square kilometres and contains a stretch of the Niagara Escarpment and the Oak Ridges Moraine.

The Grand River watershed is the largest in southern Ontario, stretching from Dundalk in the north to Lake Erie in the south. Its southern portion contains a number of Carolinian plants and animals, including such endangered species as the cucumber tree.

By Andrew Vowles

Menu Planning for -40 C Is No Picnic

Guelph nutrition experts tapped for advice on Antarctic expedition

ADIET CONSISTING OF at least half fats is hardly what the doctor would order for most patients. But that's what Heidi Smith, dietician in U of G's Health and Performance Centre, is recommending for two new clients.

This month, she and Prof. Terry Graham, Human Biology and Nutritional Sciences, joined the support team for adventurers Sunniva Sorby and Uiloq Slettemark, who hope to become the first pair of women to ski across Antarctica later this year. Smith and Graham will provide advice about nutrition and physiology, a key ingredient in the success or failure of the planned three-month trek across some of the most forbidding terrain on Earth.

"There are not a lot of people in the world that know much about nutrition behind an expedition of this kind," says Smith. "It's exciting. We're breaking new ground in the scientific world."

Computer scientists by day and seasoned explorers after hours, Sorby and Slettemark met a year ago in Greenland, where they discovered a shared passion to cross the bottom of the world.

Sorby, a Canadian now living in California, made history in 1992/93 when she skied to the South Pole with three other women. Last spring, she led a three-person team across the Greenland ice cap, becoming the first Canadian woman to ski the route. Her new partner, a native of Greenland, crossed the Greenland ice cap in 1995 and is a champion cross-country skier, bi-athlete and marathoner.

Trans-Antarctic Expedition 2000 will begin Nov. 1 with the onset of 24-hour sunlight at the South Pole. Skiing for 10 hours a day, the women plan to reach the South Pole

by New Year's and complete the 100-day crossing — all 1,676 miles of it — by mid-February. Each hauling a 250-pound sledge packed with equipment and supplies, they will encounter temperatures of -20 to -45 C and will risk exhaustion, sunburn, frostbite, blisters and hypothermia. "It's the coldest, driest place in the world, drier than the Sahara," says Smith, adding that anything not carried inside a parka will freeze solid.

The women will be monitored during their expedition by the Defence and Civil Institute of Environmental Medicine, a branch of the Department of National Defence. This Toronto research centre studies human performance, particularly in harsh environments. By collecting information about physiology, immunology and psychology, the researchers hope to learn more about how women perform in an area limited mostly to males.

It was that organization that came looking for a nutritionist at U of G. "They called the University of Guelph because we have a strong nutritional science program," says Smith, who had been unaware of the planned Antarctic expedition. "It caught me a bit off guard — the Department of National Defence calling."

Graham has co-operated with the institute since the 1980s in studying how men and women deal with cold and other environmental stresses. "It was very clear that at the forefront of the women's concerns was nutrition, and it's very hard to get the combination of nutrition and exercise physiology advice of this nature in Canada," he says. "Guelph is probably the only place that can offer that combination."

Contacted about a month ago,

Smith had less than two weeks to come up with nutritional recommendations for a conference of potential support team members. "I was thinking I could just dive into the literature," she says. "After doing some extensive searching, I realized there was not much research in this area, especially on women."

For example, she made an "educated guess" of 6,000 calories a day for each of the women to consume based on research involving men (although she says her well-conditioned clients are similar to men in body-fat percentage).

"It's very hard to get the combination of nutrition and exercise physiology advice of this nature in Canada. Guelph is probably the only place that can offer that combination."

Even Sorby and Slettemark had undertaken their earlier expeditions without considering the nutritional and physiological aspects. They were astounded when Smith told them they should be drinking three times as many fluids as their norm. "That could have a huge impact on their performance," says Smith, noting that dehydration will pose the major nutritional risk for the pair.

Water itself poses a number of challenges, she says. Imagine sipping from a thermos and screwing the cap back on, only to realize that traces of liquid left in the cap have frozen

solid. (She's investigating the use of a camelback, basically a wineskin carried on your back, specially equipped with a heated drinking tube.) On the frozen continent, there's nothing slapstick about spilling water on your parka and having the zipper freeze shut. "The smallest things can compromise the whole plan — and compromise survival."

The pair will record their diet and eating patterns during a three-week training expedition in Greenland next month. Smith will compare that information with her earlier recommendations to develop a suggested menu for the Antarctic trek. Or rather *menus*. Having initially considered following the same diet, the women decided that their common goal of crossing the Antarctic didn't mean they had to share every last dehydrated morsel. "They can't be arguing about what to eat for dinner," says Smith.

Just getting them to agree to eat what they should, when they should, might make any parent's dinner-table negotiations over broccoli and spinach look like child's play. Rather than eat on the fly, they must follow a strictly regimented eating schedule involving rest stops every two hours. "This group has established that they have to stick to a plan," says Smith. "They can't just stop when they're hungry."

More important, they have to avoid the impulse to forgo a meal break in favour of logging a few extra miles. Besides considering what foods will provide the necessities of life most economically and which foods dehydrate well, Smith needs to make meals easy. "That's the big challenge, getting them to stop. They get cold when they stop."

Smith says this is the first time she's worked with this type of ath-

lete. Her normal clientele ranges from national-level athletes to the general public. "The health, survival and performance principles are the same, but the application will require some creativity on my part."

Her recommendations also run counter to what she might suggest to the average client. Imagine, for example, preparing a diet consisting of 50- to 60-per-cent fat. "Fat has twice as many calories per gram as carbohydrates," says Smith. "That makes a huge difference in the weight of the sledge over 100 days."

Maintaining a healthy gastrointestinal tract will be one of the biggest concerns during the trek, perhaps second only to the dangers of dehydration, says Graham. "The gastrointestinal tract is important for absorbing nutrients and fluids, but it also has an extremely important immune function. The conditions they will be under are very stressful, and that's hard on the gut."

Dietary supplements, for example, can play havoc with the gut lining, causing anything from poor nutrient absorption to diarrhea.

Smith hopes to write a research paper based on what she learns from the expedition. "It's such a new area that a lot of people are interested in it."

She has visited southern Chile and competes in triathlons, but "that's as far as my endurance could take me." Ditto for Graham, whose experience of circumpolar expeditions is limited to reading accounts of other people's exploits. "Quite honestly, I'd rather be sitting in front of a nice warm fireplace with a glass of wine, reading about it rather than doing it."

For more information about Trans-Antarctic Expedition 2000, visit the Web site www.tae2000.com.

BY ANDREW VOWLES

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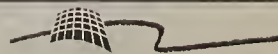
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LETTERS

RELIGIOUS FREEDOM REFLECTS GROWING DIVERSITY OF UNIVERSITY

How do we address growing religious diversity within the University? The issue of religious freedom was explored in a recent forum sponsored by the multifaith Campus Ministry and the Human Rights and Equity Office. Moderator was Rev. Daryl Miranda. Forum panelists were Prof. Michael Sobol, Psychology; Prof. Sandy Middleton, Zoology; and Patrick Case, director of the Human Rights and Equity Office.

In accordance with the Charter of Rights and Freedoms and Ontario Human Rights Code, the University recognizes the pluralistic nature of our community and the need to accommodate students who experience conflict between religious obligation and academic requirements. The onus rests with the student to negotiate alternative arrangements with the instructor within two weeks of receiving a course outline. Mediation could facilitate an accommodation, if needed. The challenge is to remain respectful to the majority tradition and to the newer faiths on campus.

Through the forum, representing faculty, administration, students, the Human Rights and Equity Office and the Campus Ministry, a clearer understanding emerged of the spirit of the policy and its practical application. Although equity policies are easy to adopt, effective implementation is harder to achieve. Participants have encountered no problems with accommodation, but raised concerns for the future with respect to large classes and labs and growing numbers of non-Christian students. A spirit of goodwill marked the discussion, and positive ideas were contributed, including:

- wider distribution of the pamphlet outlining major holy days and University policy;
- a scan of the academic calendar to identify whether an adjustment in the exam period itself could assist in accommodating religious observances (e.g. seven in April, including Passover);
- flexibility in residence departure requirements for students with disabilities and religious needs; and
- inclusion of the policy in all course outlines.

It was noted that convocation dates currently respect all major faiths.

Accommodation requires that

students not be penalized for their religious commitment. Attempts to probe the level of faithfulness of the student are inappropriate, as is the assumption of an undertaking of any individual through identification with a religious community. Each faith group embodies a spectrum of degrees of observance. Religious commemoration may involve institutional services, a day of contemplation, prayer, fasting or celebrating within the family.

Possibly the greatest significance of this process is recognition that religion plays an important role in our lives and that religious freedom reflects the growing diversity of the University. Let us be proactive and work co-operatively to create a model of community that affirms our fundamental unity of purpose, by embracing the diversity of religious tradition without diminishing the value of the faiths that constitute its heritage.

Mary Ellen Hougham
Campus Ministry

ESSAY CONTEST PROMOTES GLOBAL CORPORATE AGENDA

Cory MacDonald's "prize-winning essay" printed in the March 15 issue of *@Guelph* is a disturbing symptom of our times. It is a mere parroting of neo-liberal dogma with, so far as I can see, not a single fresh word in it. It does not represent a "political vision" to improve our living standards, but only the program of a global corporate agenda that the majority of people in Canada are now suffering through.

Cory MacDonald's essay represents the triumph of life-blind ideology. No thought needs to accompany the slogans, just unquestioning acceptance. But a review of the literature on globalization from a range of disciplines reveals its negative impacts in Canada as well as around the world.

First of all, the concept of globalization needs to be labelled for what it is — corporate globalization. According to Herman E. Daly, former senior economist with the World Bank, the ideal of globalization, when closely examined, "turns out to be unfettered individualism for corporations on a global scale."

Those who promote corporate globalization are working to raise the living standards of corporate stockholders and high-level corporate managers, not the living standards of

the vast majority of Canadians. (And if anyone still believes in the trickle-down theory of economics, I have some swampland in Florida I'd like to sell them.)

In rejecting the nation-state, Cory MacDonald leaves behind all the human and environmental protections built up over years of negotiation. There are no laws to protect either people or the environment at the global level, only laws to protect the movement of money and transnational corporate commodities. The "supranational bodies" he wants to pass power to have no accountability to life-protective regulations, no democratic process.

While acolyte MacDonald exhorts us with clichés to "compete with the world on equal terms" and "expose business to a number of harsh realities," economist Daly understands what the slogans really mean: "The economic integration of any high-wage country with an overpopulated world is bound to lower wages and raise returns to capital, widening the gap between labour and capital toward the more unequal world distribution."

The victims of that unequal distribution have been described by a recent United Nations Human Development Report as:

- the 1.3 billion people living on a dollar a day or less;
- the 160 million malnourished children;
- the one-fifth of the world's population not expected to live beyond 40; and
- the 100 million people in the West who are living below the poverty line.

The moderator of the United Church of Canada warns that people are getting chewed up by an uncaring economy: "People are dying in the process. . . they are being sacrificed, literally, to the god of the market."

Rural communities in Canada represent a microcosm of the devastation brought on by corporate globalization, eroding the very foundations of the rural way of life that has historically valued community, neighbourliness and co-operation.

Economically, they have been hammered by the growth of corporate farming, poverty and debt creation, restructuring, deregulation, privatization and changes in employment and unemployment patterns.

Politically, Canadian rural communities have been made insecure by public-sector slashing, tax and

subsidy discriminations, cutbacks to rural services and an assault on shared risk policies.

Socially, Canadian rural communities have suffered from reduced access to health services, loss of vital social institutions like schools and hospitals, and population migrations.

Environmentally, Canadian rural communities have endured soil depletion, pesticide persistence, agricultural pollution, exhausted fisheries and reckless clear-cutting.

Culturally, Canadian rural communities are losing their heritage of mutual help and their distinctiveness in the face of commodification, mass consumption and the invasion of big-box stores.

In terms of gender impacts, rural women in Canada have experienced greater wage decreases than men have, more off-farm labour (in addition to their on-farm labour) and increased responsibilities as social services are withdrawn.

The impacts of corporate globalization on rural communities are fracturing a quality of life that is Canada's historical identity.

So, whose "standard of living" is Cory MacDonald really talking about when he extols the virtues of corporate globalization? Certainly not the majority of Canadians, but the minority of stockholders and corporate managers who stand to benefit from the endless search for increased profits that transnational corporations restlessly seek — at any cost. Canadian standards of life are an "externality" to corporate globalization and constitute a "barrier to trade" whenever they do not advance what Daly describes as "global corporate feudalism." The fact that Magna International awarded \$56,000 in cash prizes and an internship for this essay should be a chilling wake-up call.

The trouble is, indoctrinated students like MacDonald now get to be "prime minister" and win huge corporate prizes for proposing to sell out the country to transnational corporations. They should be educated, not rewarded for their ideological programming.

Jennifer Sumner
Rural Extension Studies

CLEARER UNDERSTANDING OF ACADEMIC FREEDOM STILL NEEDED ON CAMPUS

The need for clearer understanding by University administrators of the

meaning of academic freedom persists. In a March 2000 message from the dean of the College of Arts to faculty members of the college, the dean advises that academic freedom is not carried on at "the level which it deserves" and indeed "descends" by "ever-tempting ad hominem and calls for colleagues' resignations, which strike me as being in conflict with the principle (of academic freedom) itself."

One can certainly agree with a caution against ad hominem, but not with the dean's unexplained juxtaposition of a logical fallacy with a call for resignation of another college dean as dean for violating his duties of office.

The dean of arts does not justify her misleading juxtaposition of a logical fallacy and a call for another dean's resignation, nor does she explain why she thinks a call for resignation from administrative office of a dean who has publicly and falsely attacked one of his faculty as "unethical" is "itself in conflict with the principle of academic freedom."

For the record, my exact words in *@Guelph* (Feb. 16), the only published statement to this effect on campus, were: "This is a case where resignation is the appropriate consequence for such public misuse of academic administrative office." The same suggestion was independently made public in correspondence in the *Toronto Star* by an emeritus professor of the University of British Columbia in the field of dispute, whose academic freedom he also saw endangered by the OAC dean's behaviour.

One worries that one open decanal attack on a faculty member in his college has led to another veiled decanal attack on a faculty member in another college for criticizing the first in this manner. The second dean's position seems also to indicate a special pleading on behalf of a dean's right to publicly attack colleagues without being subject to a suggestion in even the most extreme cases that resignation for such violation of academic freedom is appropriate.

It seems that in this way, the dean's apparent administrative defence of academic freedom is very different and opposite — a defence of decanal positions against accountability to the principle of academic freedom for public attacks on colleagues, and against administrative consequences for such actions.

Prof. John McMurtry
Department of Philosophy



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AMBASSADORS FOR THE UNIVERSITY

Each year, more than 200 U of G students, representing all academic programs, volunteer to be University of Guelph ambassadors. They help with recruitment events such as Fall Preview Day and Campus Days and visit their former high schools during the winter break to talk about life at U of G. Taking a breather from their duties are, from left, ambassadors Kirk Sinclair, Amanda King, Jen Coons and Jenn Annis (sitting).

PHOTO BY MELANIE GILLIS

EMC Develops Guidelines

Continued from page 1

and it lacks predictability because the operating grant amount may fluctuate from year to year, while our costs are continuing and growing."

The government's creation of an accessibility fund and a performance fund has been criticized across the university system.

Tying funding to enrolment growth means institutions will have to, at the very least, match their intake numbers from the previous year, says Rozanski. "The government has clearly tried to create an incentive for post-secondary institutions to take more students, but we will be hard-pressed at this institution to support going any further than we already have in enrolment numbers without affecting quality."

Tying funding to the indicators such as graduation rates and employment rates is also problematic, he says. "Not only is the methodol-

ogy used questionable, but such utilitarian indicators are not the true measure of the purpose of a university education. There is not a single indication of quality in these indicators. Where is the measure of students who go on to graduate work? Where is the measure of research activity? Where is the measure of people who contribute to society in other ways?"

Since the March funding announcement, Rozanski and other members of the University administration have been analysing the impact on U of G and working against the clock to draw up a preliminary 2000/2001 budget that can be discussed with the community, reviewed by various governance bodies and then presented to Board of Governors in April. The task is hampered by a number of uncertainties, including the fact that how

funding will be tied to performance indicators has not been finalized and that final enrolment numbers won't be known until November, seven months into U of G's fiscal year.

Prof. Alastair Summerlee, associate vice-president (academic) and chair of the Enrolment Management Committee (EMC), says that although the announcement of limits on tuition fee increases has been welcomed by students, it will not even come close to covering rising costs for the past year, let alone future costs of faculty, staff, equipment, books and journals and so on.

"At Guelph, we may have to consider the fact that U of G has not increased its tuition fees at the maximum level in the past several years and explore at EMC whether we wish or need to make allowable adjustments above the two-per-cent level for this year," says Summerlee. "The University may also want to revisit the question of tuition differentiation in the future, but in keeping with the discussions of Senate throughout fall 1999, the University will not be considering fee differentiation for 2000/2001."

EMC has developed a set of guidelines related to enrolment, tuition and financial aid for U of G students. (They can be viewed on the Web at www.uoguelph.ca/atguelph/00-03-29/articles/emc.htm.)

The guidelines are being used to guide the development of recommendations that EMC is presenting this week to the President's Budget Advisory Group, VPAC, the Student Budget Advisory Group and the Senate Committee on University Planning. A public presentation will be made at a town hall meeting March 30 at noon in Peter Clark Hall.

Based on feedback, EMC will finalize its report to PBAG and SCUP. The recommendations will then be presented to Senate April 11 and to B of G April 25.

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Unfurnished basement apartment in private residence, Speedvale/Victoria area, parking, laundry, ideal for quiet professional female, non-smokers, no pets, \$600 a month inclusive, available May 1, 836-7587 after 6 p.m.

Two-bedroom water-view cottage, four miles north of Sauble Beach, eat-in kitchen, barbecue, campfire, non-smokers, no pets, adults only, \$450 a week for July and August, leave message at 763-1236 or send e-mail to lwardwell@uoguelph.ca.

Furnished bedroom in quiet south-end house, close to campus, bus and shopping, central air, parking, non-smokers, no pets, \$495 a month inclusive, leave message at 824-1568 or send e-mail to xiaomins@uoguelph.ca.

WANTED

Room for female student from April 27 to Aug. 31, within 20-minute walk to campus, non-smoker, no pets, send e-mail to zhangzhiwu@hotmail.com.

To borrow or rent, a machine that converts eight-mm movie film to VHS video format, cralst@uoguelph.ca.

One-bedroom apartment close to bus/train station, smoker, send e-mail to jlawless@passport.ca.

Grad student seeking summer sublet, one-bedroom or bachelor apartment, up to \$300 a month inclusive, housesitting also an option, send e-mail to jentigert@hotmail.com.

Bachelor or one-bedroom apartment for business professional, 741-7663.

Two-bedroom apartment for two responsible female students for Sept. 1, laundry facilities, \$300 to \$400 a month per person, references available, send e-mail to murphyj@uoguelph.ca.

Willing to share driving or costs of a ride from Victoria Street/Belmont Street in Kitchener to U of G, arriving at 8 a.m. and leaving at 4:45 p.m., Ext. 6199.

Executive seeks house or townhouse in Guelph starting April 1, two or more bedrooms, Paul, 767-3915.

Large room or small apartment for May 1 for a mature male part-time technician, \$400 to \$500 a month inclusive, 821-3948.

One-bedroom or bachelor apartment for quiet fourth-year female student, within 20-minute walk to campus, laundry, non-smoker, no pets, parking required, September to April 2001, Emily, 836-9182.

Trudeau memorabilia — posters, pamphlets, stickers, buttons, personal photos — for research or possible exhibition purposes, gklages@uoguelph.ca.

Seeking fourth-year landscape architecture student to design residential landscape, send e-mail to csousa@alumni.uoguelph.ca.

Furnished home/flat for professional couple and 12-year-old boy, close to campus, May to September, references available, 824-9203 after 6 p.m.

Children's bicycle trailer, Carey, 767-0690 or send e-mail to cbergman@uoguelph.ca.

High chair, car seat, good condition, Ext. 6581.

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- Edward Auer — Piano

Saturday, May 13, 2000 • 8:00 p.m. • \$20

Acclaimed for his virtuosity and eloquence. First American to win a prize in the International Chopin competition in Warsaw. In 1993, a member of the jury of the 10th Anniversary International Tchaikovsky competition in Moscow.

- Stan Rogers Coffee House Tribute

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ARBORETUM

Naturalist Chris Earley leads a workshop on "Cottage Birds: Your Summer-time Companions" April 20 from 9 a.m. to 4 p.m. at the Arboretum. Cost is \$45. Registration and payment are required by April 3. To register, call Ext. 4110.

The Arboretum is offering two workshops on warblers in April and May. "Level 1: Butterflies of the Bird World" runs April 25 from 9 a.m. to 4 p.m. and includes a morning hike May 13, beginning at 6:30 a.m. "Level 2: The Less Common Ones" is slated for May 2 from 9 a.m. to 4 p.m. Sessions are led by naturalist Chris Earley and Richard Tofflemire. Cost of the first workshop is \$63, with registration and payment required by April 12. Cost of the second workshop is \$45; register by April 25.

Theatre in the Trees presents the dinner-theatre comedy *Beyond a Joke* by Derek Benfield Saturdays until April 29. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are \$45 and are available at Ext. 4110.

ART CENTRE

The exhibition "Ross Bell: Constructing After" opens April 5 at the Macdonald Stewart Art Centre with an opening reception at 4 p.m. Featuring the work of Guelph sculptor Ross Bell, the show continues until April 16. Continuing at the art centre are the exhibitions "Rolph Scarlett: Art, Design and Jewelry," "Lois Etherington Betteridge: A Tribute Exhibition," and "Mysteries of the Collection: Making History."

ATHLETICS

The women's hockey Gryphons host an alumni game April 1 in the gold arena. A competitive game begins at 11:30 a.m., to be followed by a non-competitive contest at 12:30 p.m. A luncheon reception and awards presentation will follow. For more information, call Ext. 6134.

CONCERTS

The Thursday noon-hour concert series continues March 30 with the U of G Early Music Ensemble conducted by Stephanie Martin and April 6 with student soloists' day, a showcase of applied music instrumentalists and vocalists. The concerts are in MacKinnon 107. Admission is free, but donations are welcome.

Prof. Edward Phillips, Fine Art and Music, leads the U of G Choir in a performance of Fauré's *Requiem* and works by Willan, Enns and Vittoria March 31 at 8 p.m. at St. George's Anglican Church, 99 Woolwich St. Tickets are \$8 and \$6 and are available at the door and in MacKinnon 201.

The U of G Jazz Ensemble, under the

direction of Prof. Howard Spring, Fine Art and Music, performs April 6 at 8 p.m. at the Grad Club on UC Level 5. The program will feature music by Nelson, Gillespie, Nestico, Coltrane, Carney, Adderley and Hefli. Admission is \$2 at the door.

The U of G Choir, conducted by Prof. Edward Phillips, and the U of G Concert Winds, led by John Goddard, perform April 7 at 8 p.m. at the River Run Centre. Tickets are \$18 and \$15 and are available at the River Run box office, 763-3000, and from MacKinnon 210.

FORUM

The School of Languages and Literatures presents a forum on "Comparative Post-Colonial Studies: Africa, Haiti, Quebec" March 31 from 2 to 4 p.m. at the University Club on UC Level 5. Panelists are Prof. François Paré, Bernard Delpêche and Cherry Clayton.

LECTURE

The Wellington Society for the Countryside lecture series presents Owen Scott discussing "Farmstead Beautification" April 11 at 7:30 p.m. in Landscape Architecture 125. Cost is \$2 for members, \$5 for non-members.

NOTICES

The Canadian Network of Toxicology Centres and U of G's Centre for Toxicology, Department of Environmental Biology and Office of Open Learning are offering "Advanced Principles of Toxicology," a two-week graduate-equivalent course for professionals working in toxicology-related fields, April 24 to May 5. For more information, call the Office of Open Learning at 767-5000 or visit the Web site www.open.uoguelph.ca.

Development and Public Affairs has four positions available for student alumni ambassadors this summer. Ambassadors' duties include helping to plan and co-ordinate University-wide alumni events, including Alumni Weekend; supporting alumni volunteers and helping with class reunions and other initiatives; budgeting, program planning and staffing alumni events; and data collection and entry. Application deadline is April 5. Application forms are available at Alumni House. For more information, call Nadine Devin at Ext. 3540 or send e-mail to ndevin@alumni.uoguelph.ca.

The College of Arts seeks nominees for its new Graduate Teaching Assistant Teaching Excellence Award. The award honours excellence by a GTA in any of the following areas: undergraduate classroom teaching, distance education teaching, innovation in teaching, facilitating student learning, leading seminar discussion, student advising and any other activity associated with

teaching. Any graduate student who assisted in teaching a course in spring or fall 1999 or winter 2000 is eligible. Nomination deadline is April 30. Application details are available from the College of Arts dean's office, Ext. 3301.

The Mustard Fellowship in Work Environment and Health provides support to outstanding researchers to build innovative research capabilities to conduct multidisciplinary studies in the area of work environments and employee health. The two-year fellowship is open to those with doctoral training (completed or in progress) in social, behavioural, organizational or health sciences, including epidemiology. Application deadline is May 31. For more information, call Donald Cole at the Institute for Work and Health, 416-927-2027, Ext. 2166, fax to 416-927-4167, send e-mail to dc@iwh.on.ca or ilharlowe@iwh.on.ca or visit the Web site www.iwh.on.ca.

SEMINARS

The Department of Microbiology's graduate student seminar series presents Linda McKerral considering "Mycoplasma Surface Antigen Variation" March 31 and Mike Cottrill discussing "Phytase" April 7. The seminars begin at noon in Food Science 128.

The Department of Economics visiting speaker seminars continue with Jon Sutinen of the University of Rhode Island explaining "ITQs and the Race-to-Fish: A Case Study of the New Zealand Southern Scallop Fishery" March 31. On April 7, Ake Blomqvist of the University of Western Ontario considers "Monopolistic Competition and Supply-Side Cost Sharing in the Physician's Services Market." The seminars begin at 3:30 p.m. in MacKinnon 234.

"Osmoregulation in Arctic Char: The Underachievers of the Family Salmonidae" is the topic of graduate student Jason Bystriansky April 4 in the Axelrod Institute of Ichthyology seminar series. On April 11, graduate student Sarah Crabbe considers the "Movement and Growth of Atlantic Salmon Parr and Brown Trout in Northern Russian Tributaries." The seminars begin at 1 p.m. in Axelrod 168.

The Guelph Athletics Society and the Health and Performance Centre are sponsoring a free seminar by Prof. Dave Dyck, Human Biology and Nutritional Sciences, on "Fat Burners: Do They Really Work?" April 5 at 7 p.m. in Powell 207.

SYMPOSIUM

MA philosophy students will present papers on a variety of topics at the Department of Philosophy's annual graduate student symposium April 7, beginning at 10 a.m. in MacKinnon 238.

TEACHING SUPPORT

Teaching Support Services runs technology clinics for instructors and teaching staff Mondays and Thursdays from 1 to 4 p.m. in Day Hall 211. You can get help with PowerPoint, digital imaging and scanning, sound and video on Mondays and with HTML-based projects and WebCT development on Thursdays. For more information or to reserve a workstation, call Pat Thompson at Ext. 2965.

THEATRE

Drama students present one-act plays March 30 to April 1 at 8 p.m. in Massey Hall. Tickets are \$3 at the door.

THESIS DEFENCES

The final examination of M.Sc. candidate Robin Cassidy, Pathobiology, is March 29 at 9 a.m. in Pathobiology 101. The thesis is "Genetic Comparison of J558 Variable Heavy Chain, VDJC (mu) Rearrangements From Neonatal Viable Moth-Eaten and Heterozygous Viable Moth-Eaten Mice."

The final examination of Della Johnson, a PhD candidate in the Department of Pathobiology, is April 3 at 9:30 a.m. in Pathobiology 101. The thesis is "A Comparison of Gene Expression by DDRT-PCR in the Guelph Strain and a Salinomycin-Resistant Strain of *Eimeria Tenella*." The adviser is Prof. Aggie Fernando.

The final examination of PhD candidate Gretchen de Boer, Geography, is April 14 at 10:30 a.m. in Hutt 234. The thesis is "Sustainable Development Decision-Making in China's Xishuangbanna Biosphere Reserve." The adviser is Prof. K.C. Tan.

The final examination of Bonnie Cohen, an M.Sc. candidate in the Department of Family Relations and Applied Nutrition, is April 14 at 9 a.m. in HAF 331. The thesis is "Health Behaviours of Secondary School Students." Her adviser is Prof. Susan Evers.

The final examination of PhD candidate Kevin Segall, Food Science, is April 14 at 9:30 a.m. in Food Science 128. The thesis is "The Relationship Between Dairy Emulsion Properties and the Absorbed Milk Protein Layer: Applications in Ice Cream." The adviser is Prof. Doug Goff.

COMMUNITY EVENTS

The Ontario Public Research Interest Group, Guelph International Resource Centre, Guelph Community Health Centre and other partners of From the Ground Up-Guelph/Wellington Food Action Group present a forum on "Food—Understand It, Secure It, Sustain It" April 8 from 9 a.m. to 4 p.m. at St. George's Church. A donation of \$2

to \$5 is requested at the door. For more information, call 824-2091.

The Guelph Chamber Choir and the Kitchener-Waterloo symphony perform Bach's *Mass in B Minor* April 16 at 3 p.m. at the Church of Our Lady. Guest soloists are soprano Julia Olson, alto Laura Pudwell, tenor Jason Lamont and baritone Mel Braun. There will be a pre-concert chat on "Bach and the Church of Our Lady: Common Structure and Symbolism" at 1:45 p.m. in the sanctuary. For tickets, call the River Run Centre box office at 763-3000.

Opening March 31 at the Guelph Civic Museum is "Interiors," an exhibition of paintings by Don Russell. Other upcoming exhibitions include "At Home in Guelph: Paintings of the City," which opens April 2, and "A Regal Tradition: The Story of Crown Royal," opening April 10. The museum celebrates the founding of Guelph April 16 with displays, demonstrations and family activities from 1:30 to 4 p.m.

The Guelph Spring Festival is seeking old trinkets and treasures for its annual garage sale April 9 at the Farmers' Market. Donations of books, records, jewelry, small appliances, glassware, china, silverware, pictures and frames, small furniture, knick-knacks and the unique and unusual are all welcome. Drop off your donation at the festival office at 10A Carden St. or call 821-3210 for pickup.

The Guelph and District Multicultural Festival 2000 will hold a fundraising fashion show April 11 at 7 p.m. at Harpo's Banquet Hall, 89 Dawson Rd. The evening will include door prizes and a raffle. Tickets are \$15. Volunteers are sought to help organizers with events for the festival, which runs June 11 to 18. For more information, call 836-2222.

The Distress Centre of Wellington-Dufferin seeks volunteers to support its crisis and support line. Intensive training is provided, with new programs starting every month. Volunteers are asked to commit four hours a week or 16 hours a month for one year. For more information, call 821-3761.

The Wellington County Museum and Archives hosts the "Roots and Wings" quilt show and competition April 14 to 16. Prize-winning quilts from the show will be on display at the museum from April 29 to Aug. 26.

The Elora Festival is looking for donations of books, records, paper ephemera, puzzles, CDs, tapes, games and posters for its annual book sale May 6 and 7. Drop off donations at the Elora Festival Office, 33 Henderson St. Elora, or call 846-0331 for pickup.



U E L P H

VOL. 44, NO. 7

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U of G Receives \$12.5M From OIT

Nine projects to benefit from provincial support

PLANTS GROWING on the U of G campus in special chambers that simulate the atmosphere of space are one step closer to actually making it into orbit one day, thanks to a portion of a \$12.5-million commitment from the Ontario Innovation Trust (OIT).

OIT officials were on campus March 24 to present a cheque to president Mordechai Rozanski for nine research projects that involve close to 200 researchers and span at least 10 departments and three colleges.

A ceremony was held in the tropical greenhouse — not far from the special chambers where the "space plants" grow — to mark the presentation, which was attended by Guelph MPP Brenda Elliott and OIT's executive director, David Bogart.

Among the projects that will benefit from the OIT funding is the "space laboratory" being built near the Bovey Building, where Prof. Mike Dixon, Plant Agriculture, and other researchers hope to learn how to grow food in space by researching atmospheric pressure. The lab will include special chambers that duplicate conditions in space.

The \$8-million facility was initially funded through the Canada Foundation for Innovation (CFI), with OIT's contribution being the final financial commitment. The total estimated value of all Guelph's

Continued on page 3



Physics professor Elisabeth Nicol poses in CFRU's studio following a taping for CBC's *Quirks & Quarks*. PHOTO BY DEAN PALMER/THE SCENARIO

Coming to a Radio Near You

Physics professor shares her expertise with listeners of CBC's Quirks & Quarks

PREPARING FOR her next "appearance," Prof. Elisabeth Nicol, Physics, is reviewing material collected on the desk in her MacNaughton Building office. But those papers aren't lecture notes — they're press releases. And her pending discussion isn't one of her customary physics lectures but another taping session for her nationwide radio audience.

Since last fall, Nicol has been one of several guest columnists on *Quirks & Quarks*, the weekly science program of CBC's Radio One. About 500,000 listeners across Canada tune in to the program each week, which airs at noon Saturdays.

Having taped five programs, Nicol says she still finds it hard to believe she was chosen for a radio gig. "I'm sort of shy and I don't see myself as being good on radio," she says, adding a common disclaimer: "I hate hearing myself."

When the CBC first approached her two years ago, she turned them down. Her name had been floated by a former student, now a science journalist. Ironically, the student had pursued journalism at Nicol's urging. "I suggested to her that a neat alternative would be to be a sci-

ence journalist. We need people trained in science who can communicate to the public."

That conviction was partly what made her change her mind when the station called again last year, looking for a replacement for Harvard University physicist Melissa Franklin. Even then, Nicol only half-expected that she'd actually wind up on the air. "I just assumed I'd do the audition, it would be a disaster and they'd never bother with me again."

No such luck.

"We're looking for people who are not only knowledgeable but also have a good ability to communicate clearly and give not just the story but a perspective on the story," says the show's host, Bob McDonald, who regularly chats with five columnists for *Quirks & Quarks*.

"She's effervescent, she has a sense of humour — she's not afraid to leave the science jargon behind," says McDonald. Pointing out that he has yet to meet Nicol in person, he expresses surprise at her self-deprecation. "She's not shy with me on-air."

The show follows an interview format taped over the phone between McDonald at CBC Radio's

Toronto studio and Nicol, who occupies a booth at the campus radio station, CFRU, in the University Centre.

For each show, producer Jim Lebons usually asks her to choose a topic from among a list of suggestions. She has discussed gravity, friction and superconductors (her research specialty is high-temperature superconductors), ball lightning and last year's Nobel Prizes in chemistry and physics. Occasionally, she suggests the topic, such as last month's show on "left-handed" materials, a subject she heard discussed at a recent conference of the American Physical Society.

Nicol's preparation for the show normally includes research at the library and on the Internet and discussion with fellow researchers at U of G and further afield. "It's a bit like an oral exam."

Apart from a "crib sheet" of facts or statistics, she generally goes without notes. She discusses the topic ahead of time with the producer, but she and McDonald don't prepare standard questions and answers. "They want a spontaneous style," she says.

Continued on page 10

Budget Goes to Senate, B of G

Funding levels won't be known until after Nov. 1

UOF G's 2000/2001 preliminary Ministry of Training, Colleges and Universities (MTCU) budget was reviewed by Senate and the finance committee of Board of Governors April 11 and will go to the full board April 25.

The lateness of this year's provincial funding announcement has had University administrators working against the clock to prepare a budget in time for students to comment on it before the semester ends, says Nancy Sullivan, vice-president (finance and administration). In addition to the time constraints, administrators have been working under a cloud of uncertainty, she says. "In all my years of working in the Ontario university system, I have never seen a budget announcement that involves so much uncertainty."

The uncertainty stems from the government's decision to increase grant funding in the form of two targeted funding envelopes — a performance fund and an accessibility fund — instead of general base increases to the operating grant. The \$16.5-million performance fund, representing a one-per-cent increase to the entire university system, is being distributed based on three key performance indicators: graduation rates, job placement rates within six months of graduation and job placement rates within two years of graduation. The \$16.5-million accessibility envelope is providing another system-wide one-per-cent increase, but will be distributed only to those universities that in 2000/2001 can match or exceed their actual intake of first-year students in 1999/2000.

"Because of the conditions imposed by these targeted envelopes, Ontario universities won't know until after Nov. 1 — halfway through our fiscal year — what level of funding they'll be receiving from MTCU," says Sullivan. "This is forcing U of G and other universities to build their budgets on the basis of projections about what might or might not be."

Continued on page 4

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Microbiologist Receives MRC Senior Scientist Award

Five-year award designed to allow recipient to focus on research issues

PROF. CHRIS WHITFIELD, Microbiology, has been chosen to receive one of 15 Senior Scientist Awards given to Canadian researchers this year by the Medical Research Council (MRC).

Not only is this the first time a Guelph faculty member has received an MRC Senior Scientist Award, but it is also the first such award given to a researcher at a Canadian university without a medical school, according to a spokesperson for the granting council.

"This is a highly prestigious five-year award designed to allow the recipient to focus on research issues," says Prof. Anthony Clarke, chair of the Department of Microbiology. The award is worth \$350,000 (plus benefits) over five years.

It will provide release time to permit Whitfield to concentrate on research and graduate teaching in his program, investigating disease-causing bacteria.

"I was excited and flattered," says the Guelph microbiologist, whose studies here since 1984 have been funded by both the MRC and the Natural Sciences and Engineering Research Council. (Last spring, he received a five-year operating grant worth a total of \$400,351 from MRC. See accompanying list of this year's grants to Guelph researchers.)

"MRC salary award recipients are selected by a multidisciplinary committee, and it's always nice to have your efforts appreciated in a scientific forum extending beyond your own discipline," says Whitfield, a former chair of MRC's grant review committee in microbiology and infectious diseases. "There are not many such awards in the country, and there are not many microbiologists that hold them."

His new award is one of 11 announced recently by the MRC under its 1999 competition for the biomedical category. Four other awards were provided under the granting

council's health research category. (In the MRC's scholar category, one of this year's 44 awards went to University of Western Ontario microbiologist David Heinrichs, who held a post-doctoral position in Whitfield's lab until a year ago.)

Whitfield studies enzymes involved in making polymers on cell surfaces of such bacteria as *Klebsiella pneumoniae* (which causes pneumonia and urinary-tract infections, particularly among hospital patients), *Salmonella* (food-borne illnesses) and *Escherichia coli* (various infections). These bacteria are successful pathogens because of their ability to evade or outwit the host's defences in humans or livestock.

Studying polymer assembly mechanisms will provide clues about how bacteria interact with host cells and respond to host defences. "I'm interested in how bacterial cell membranes and surfaces are put together and how their structure and organization might change in the course of infection," he says.

Explaining that his work begins with a fundamental understanding of underlying molecular processes, Whitfield says it can lead to valuable information for vaccine development or for identifying new antimicrobial drug targets.

"Pretty much everything we do is basic science. The applied aspects arise from that foundation. For example, we've got long-term goals in terms of novel drug targets and some elements we hope to transfer soon to the pharmaceutical sector. But developing drug targets is a long, laborious process."

Whitfield says the new award will allow him to spend relatively more time on his research program and with his graduate students and post-doctoral fellows. His research currently involves six graduate students, three post-docs, a technician and several undergraduates.

During the next five years, he anticipates pursuing new research projects involving the same kinds of cell surface molecules. For example, bacteria accumulating as bio-films in a medical setting may be inherently resistant to antimicrobial therapy and cause persistent infections. These bio-films also cause significant bio-fouling and contamination in water and waste-water pipelines.

He also envisions expanding his international collaborative projects and pursuing more partnerships with other researchers in the Canadian Bacterial Diseases Network.

BY ANDREW VOWLES

MRC Grants to Four

FOUR U of G researchers were recently awarded operating research grants from the Medical Research Council, beginning spring 2000.

Prof. Inanankur Bag, Molecular Biology and Genetics, received \$179,340 (three-year grant) for his work on the "Regulation of the Poly(A)-Binding Protein Gene Expression in Mammalian Cells."

Prof. Dev Mangroo, Chemistry and Biochemistry, was awarded

\$307,631 (three-year grant) to study the "Function and Mechanism of Nuclear t-RNA Export Receptors."

Prof. Rodney Merrill, Chemistry and Biochemistry, was awarded \$8,395 (two-year grant) for the project "Structure and Function of *P. aeruginosa* Exotoxin A."

Prof. Barbara Morrongiello, Psychology, received \$206,361 (three-year grant) to study "Unintentional Childhood Injuries: Influences on Children's Risk-Taking Behaviour."

IN MEMORIAM

Associate registrar Bob Auger died March 28 at home after a long illness. He joined the University in 1982 as associate registrar (systems) and was associate registrar (enrolment, statistics and systems) at the time of his illness. He was a past executive member of the Professional Staff Association and is survived by his wife, Susanne; two children, Catherine Cameron and Rob;

and one grandchild, Skya. A tree will be planted in his memory Sept. 24 at 2:30 p.m. in the Wall-Custance Memorial Forest at the Arboretum.

A memorial service for Prof. Gerald Rubio, School of Literatures and Performance Studies in English, who died Jan. 25, will be held April 30 at 2 p.m. at the Arboretum Cen-

tre. Prof. Rubio joined U of G in 1967 and taught in the Department of English for many years.

U of G honorary degree recipient William Hamilton, considered the most influential evolutionary biologist of his generation, died last month in Britain at the age of 63. He was awarded a doctor of science degree by Guelph in 1994.

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@GUELPH

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TREES TO BE REMOVED

Grounds staff will remove seven dead or dying trees on campus this spring, says Grounds head John Reinhart. The trees include a sugar maple at the southeast corner of Macdonald Hall and a silver fir at the northwest corner of War Memorial Hall. Five dead spruce trees — three at the College Avenue crosswalk, one at the southeast corner of College and Gordon and one west of parking lot 44 — will also be removed. Reinhart says a general spruce decline has been noted across the province, but the cause has not been determined.

INPUT SOUGHT ON POSSIBLE MERGER OF CBS, CPES

At the request of the president and provost, a task group has been established to gather information about the possible merger of the College of Biological Science and the College of Physical and Engineering Science. The task group has established a Web site that discusses issues surrounding a merger and includes a questionnaire to obtain input from the University community. The job of the task group is to determine the wishes of all interested parties in both colleges and to produce a report describing the results of the investigation, which will be submitted to the provost. The Web site is located at <http://hebb.cis.uoguelph.ca/~deb/Merger/>.

U OF G TO HOST SPRING CLASSICS CONFERENCE

U of G's classics program plays host to the spring conference of the Ontario Classics Association April 29 in room 114 of the MacKinnon Building. This year's theme is "The Great Games of Greece." Guest speakers are Robert Weir of the University of Western Ontario discussing "Athletes and Musicians at the Pythian Games," Mark Golden of the University of Winnipeg on "Olive-Tinted Spectacles: Myths in the Ancient and Modern History of the Olympics" and Gerry Schaus of Wilfrid Laurier University on "The Greek Stadium at Nemea: If You Build It, They Will Come." Cost of the conference, which is open to the public, is \$20 general, \$12 for students, and includes lunch. Register by April 17 with Prof. Victor Matthews, Languages and Literatures, at vjmatthe@uoguelph.ca or call Ext. 3152/3883.

(GWC) HOLDS ANNUAL MEETING, SEMINAR

The Guelph-Waterloo Centre for Graduate Work in Chemistry and Biochemistry will hold its annual meeting, seminar, poster session and awards presentation April 28 at the University of Waterloo. The meeting for (GWC) members begins at 1 p.m. in Room 1302 of the Davis Centre, to be followed at 3 p.m. by a public seminar with Prof. Nigel Bunce, Chemistry and Biochemistry, discussing "Dances With Dioxins." For more details, call Andrea Wetmore at Ext. 3848.

OIT Support to Boost Research

Continued from page 1

Guelph MPP Brenda Elliott and David Bogart, executive director of the Ontario Innovation Trust, second from right, came to campus March 24 to present a cheque to U of G. At right is Prof. Mike Dixon, Plant Agriculture. At left is Richard Worsfold, director of business development for CRESTech, an industry partner.

PHOTO BY MARTIN SCHWABE

CFI/OIT-funded projects is more than \$30 million.

"The opportunities afforded U of G researchers by the combined CFI and OIT infrastructure awards are unprecedented in recent times," said Dixon. "U of G has been extraordinarily successful in this very competitive arena for research infrastructure funding. This reflects very well on the quality of our faculty and research personnel."

Additional funding for the projects has come from institutional and private-sector partners. Some of the projects have been in the works, gathering initial funding commitments, for close to 18 months.

"Our support for these projects will ensure that the University of Guelph is getting a major boost for its research infrastructure," said Bogart. "The University will be able to develop substantially enhanced research capabilities in areas such as food systems biotechnology, animal health and biotechnology, molecular biology, carbohydrate chemistry and food safety."

Reflecting on U of G's success in the OIT program, Rozanski noted that researchers across a range of disciplines will benefit from more than \$60 million in funding from the OIT, CFI, Ontario Research and Development Challenge Fund and Guelph's partners in industry.

"Taken together with the \$73.6 million in SuperBuild Growth Fund support for new facilities for the University of Guelph, these investments reflect the world-class nature of our research and researchers and will permit us to contribute to the advancement of knowledge to the benefit of our society," he said.

Each of the OIT awards will have the potential to provide benefits for the broader public in Ontario, as well as the University and its various partners. The projects are:

- \$3.15 million to help build the "space lab" to research biological

systems for terrestrial and space applications, in conjunction with the European Space Agency and NASA;

- \$2.99 million for the creation of the Canadian Research Institute for Food Safety, which will enhance the ability of industry to produce safe and affordable high-quality foods;
- \$2.8 million for research at the Centre for Food and Soft Materials Science, which will contribute to improved quality, added value and reduced costs for the food-processing industry;
- \$1 million for new equipment at the Centre for Animal Technology and Health's Genome Manipulation Laboratory, which will help lead to improving the feed efficiency of animals;
- \$1.6 million to support research and training at the Agricultural Plant Biotechnology Centre, which will support job creation in the private sector by developing unique plant products for food and beverage manufacturers;
- \$287,697 for a mass spectrometer to identify proteins, which will boost the analytical capability of the University and provide training for the local biotech industry;
- \$154,684 for equipment to be

used in research that has the potential to convert biomass to useful feedstocks for large-scale industrial application in Ontario;

- \$390,927 for research in plant and animal pathogens and food science, which will contribute to a better understanding of the relationship between the structure and function of food-related molecules, and will enhance the ability to check food safety; and
- \$156,700 for mobile analytical equipment for monitoring trends and events in crop areas, which could help create spin-off companies and increase agricultural production through environmental management.

The CFI was established by the federal government in 1997 to strengthen the capacity for innovation in Canadian universities and research institutions. The foundation contributes 40 per cent towards eligible project costs, with universities identifying the remaining 60-per cent matching funds.

The OIT, created in March 1999, has a mandate to assist the province's colleges, universities, hospitals and other non-profit organizations carry out scientific research and technology development by enhancing the infrastructure needed for research.

PEOPLE

LANDSCAPE ARCHITECT HEADS NATIONAL SOCIETY

Prof. Cecelia Paine, Landscape Architecture, became the new president of the Canadian Society of Landscape Architects (CSLA) during its winter executive meeting in Winnipeg in February. The CSLA is the national professional association representing 1,700 landscape architects across Canada.

COLLEGE ROYAL HONOURS STAFF MEMBER FOR VOLUNTEER CONTRIBUTION

Tim Gaw of Grounds is this year's winner of College Royal's Jim and Joe Award, which recognizes volunteer contributions to the annual student-run event by a U of G faculty or staff member. Gaw was recognized in particular for his volunteer work in organizing and participating in the Santa Claus parade. The award, which is named for its first recipients, Profs. Jim Atkinson and Joe Prokopcak, was presented to Gaw at the annual College Royal luncheon during open house weekend.

CUMMINGS GIVES KEYNOTE ADDRESS IN WASHINGTON

Prof. Harry Cummings of the School of Rural Planning and Development and the Department of Agricultural Economics and Business presented the keynote address at the U.S. Department of Veteran Affairs, Health Services Research and Development annual meeting in Washington, D.C. He spoke on "Integrating Evaluation Into Quality Assurance Programs for the Health Professions in Ontario."

ARTIST EXHIBITS WORKS IN FLORIDA, JAPAN, ENGLAND

Prof. Jean Maddison, Fine Art and Music, attended the 28th annual Southern Graphics Council Conference in Florida and exhibited works in the open portfolio show. Three works chosen by an international committee were on display in Sapporo, Japan, at the International Print Biennale for the month of March, and Maddison is now mounting an exhibition of work titled "Genetic Code III" for the Contemporary Print Show 2000 at the Barbican Centre in London, England.

HISTORIANS PARTICIPATE IN LOCAL LECTURE SERIES

Three members of the Department of History were guest lecturers in the Wellington County continuing education archeology/history lecture series this winter. Prof. Elizabeth Ewan spoke on "Whatever Ales Ye: Women and Brewing in Medieval Scotland." University professor emeritus Gil Stelter explained "Jerusalem: What is the Appeal of the Eternal City?" PBD candidate Scott Moir presented "The Devil's Children: Witches in 17th-Century Scotland." Moir also gave a talk on "Supernatural Scotland" at the Guelph Civic Museum's Robbie Burns Day celebrations.

Male Suspect Charged In Assaults, Break-Ins

A MALE SUSPECT has been charged with several offences related to the two sexual assaults and a series of break-ins that have occurred in Guelph over the past year. The charges are the result of information received from the public and the work of a special task force.

The task force, which is still investigating incidents that occurred on Clive Avenue and Metcalfe Street in Guelph, urges members of the community to continue to be mindful of their home and personal security at all times. The suspect has been in custody since Feb. 28 on a number of unrelated matters.

Town Hall Meetings Outline Budget Goals

Continued from page 1

Unlike the operating grant announcement, which was for only one year, the provincial tuition announcement applies for five years. In each of those years, tuition can increase by two per cent above the maximum allowable. Because Guelph has not increased fees to the maximum allowable in the past few years (and has forgone at least \$3 million in revenue as a result), it could increase undergraduate tuition by about four per cent this year (to bring it up to the maximum allowable), and could increase graduate tuition almost 25 per cent. As in the past, 30 per cent of any revenues from undergraduate fee increases must be designated for needs-based student aid.

At campus town hall meetings March 30 and April 5, John Miles, assistant vice-president (finance), outlined for members of the University community the multi-year budget goals and basic assumptions on which U of G's 2000/2001 budget is based. The budget goals are fourfold: to invest in the University's quality and to enhance accessibility (teaching costs such as GTAs and sessionals, teaching/learning facilities, student aid); to attain a balanced budget through deficit repayment; to reduce the structural (base) deficit so that the University can reduce its reliance on one-time solutions; and, finally, to create a stabilization fund to counter the effects of the uncertainty in government funding.

"As the government continues to target funding and increases uncertainties in annual grants, it affects our ability to predict a major source of our annual revenues — provincial grants," said Miles. "We need to develop a cushion to reduce the risk of mid-year budget reductions."

In recent years, as government funding has declined, the University has started each budget process with a base deficit, a shortfall in revenues compared with expenses. In the past, this has been covered with one-time adjustments, including a pension contribution holiday and year-end savings. This year, U of G started the budget process with an opening base deficit of \$6.58 million. Opening base revenues and recoveries — provincial grants, tuition, cost recoveries and other sources such as the University's contract with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) — total \$181.3 million. Expenses total \$187.9 million. The bulk of this — \$142.3 million — is personnel costs; the remainder involves library acquisitions, student aid, operating expenses and the annual repayment of the deficit related to the University's special early retirement plan.

In an initial 2000/2001 budget drafted before the provincial funding announcement (see Chart 1), U of G identified three additional deficit items — an anticipated reduction of \$450,000 in OMAFRA support (the impact on the MTCU budget of a \$3.5-million cut announced to the contract itself), a provision of \$4.5 million for salaries and benefits (this is subject to negotiation, and only three of 10 U of G employees groups have finalized agreements to date) and \$500,000 in additional utility costs due to recent increases in oil and gas prices. The budget also identified \$900,000 in resignation and retirement cost savings as senior faculty and staff leave the University and their positions are filled at lower salaries. This brought the pre-announcement planning deficit to \$11.13 million.

Recognizing that it is of paramount importance to invest in the University's quality and enhance accessibility, U of G is planning to invest \$3.27 million in a number of specific academic and student support areas, said Miles. This funding (see Chart 2) is targeted towards library acquisitions, teaching costs to stabilize

enrolment, the Research Initiative Fund (targeted specifically at humanities and social sciences, where it is increasingly difficult to secure external research grants), support for distance education courses, start-up funds for new faculty, student financial aid (in addition to the amount mandated by the government), student and registrar services (including learning support and career services) and classroom upgrades.

These investments in quality and accessibility, added to the \$11.13 million already identified, bring the University's total budget planning deficit to \$14.4 million.

SOLUTIONS

As in past years, U of G proposes to turn to a one-time pension contribution holiday of \$5.1 million as part of the solution to the budget deficit, said Miles. These funds are savings realized in the operating budget, not withdrawals from the pension plans. This saving is conditional on the performance of the pension plans and cannot be confirmed until later in the fiscal year. In addition, U of G's ancillary parking operation will contribute \$100,000 from its net income, and president Mordechai Rozanski has sought a contribution of \$500,000 from the Heritage Fund for start-up funds for laboratories and research equipment for new faculty. This is vital because of the growing competition among universities across North America in filling faculty positions, said Miles.

Guelph will also realize additional revenues of \$3.35 million in 2000/2001 due to incremental undergraduate enrolment from previous years' intakes (\$3.2 million) plus projected incremental graduate enrolment growth in 2000/2001 (\$150,000).

In face of the uncertainty surrounding the provincial funding announcement, U of G can only estimate what level of support it will receive, said Miles. The University is estimating that its share of the provincial funding envelopes will be \$1.4 million on the basis of the three performance indicators and \$1 million on the basis of enrolment.

Parallel to the development of the 2000/2001 budget, the Enrolment Management Committee (EMC) has been exploring U of G's options surrounding tuition and enrolment to guide the budget process. EMC chair Prof. Alastair Summerlee, associate vice-president (academic), told the town hall meetings that the committee has developed its guidelines within the framework of three primary goals: enhancing accessibility to the institution, maintaining quality and reducing the structural deficit.

In terms of tuition, EMC is recommending just over a four-per-cent increase in undergraduate tuition and a one-per-cent increase in graduate tuition. The latter recommendation recognizes that U of G's graduate tuition is already one of the highest in the country and that increases in the number of graduate students are planned.

Although a number of other universities are considering additional fee differentiation as a means of dealing with underfunding, EMC has reaffirmed that the University will not differentiate tuition fees this year above what is already in place, he said.

EMC also recommends maintaining 2000/2001 undergraduate enrolment at the level of fall 1999 actuals, increasing graduate enrolment slightly (about 45 students) and providing additional support for teaching and learning, including more funding for graduate students through teaching and research assistantships.

Based on EMC's tuition recommendations, U of G will realize an additional \$2 million in

CHART 1

Initial 2000 /2001 MTCU Budget Pre-Announcement Position:

	\$millions
■ Opening Base deficit	(6.580)
■ OMAFRA transfer reduction	(0.450)
■ Provision for salaries and benefits	(4.500)
■ Estimated utilities	(0.500)
	(12.030)
■ Resignation and retirement savings	0.900
■ Sub total before investments and solutions	(11.130)

CHART 2

Initial 2000/2001 MTCU Budget PROPOSALS : Investments: quality and accessibility

■ Total Before Investments and Solutions:	(11.130)
• Library acquisitions	(0.350)
• Teaching Costs: stabilize enrolment	(0.870)
• Research Initiative Fund	(0.100)
• Distance Education increased courses	(0.100)
• Start-up funds for new faculty	(0.500)
• Student financial assistance (30% plus \$0.100M)	(0.700)
• Student and Registrarial Services:	(0.350)
> incl. learning support, career services	
• Classroom upgrades	(0.300)
• TOTAL Investments	(3.270)
■ Total After investments, before solutions	(14.400)

CHART 3

Initial 2000/2001 MTCU Budget PROPOSALS : SOLUTIONS:

	\$m
■ Total After Investments, before solutions	(14.400)
■ Solutions Before Tuition:	
■ Grants: Performance based:	1.400
■ Grants: Enrolment based:	1.000
■ Incremental enrolment (based on 1999):	3.350
■ PCH	5.100
■ Ancillary -Parking	0.100
■ Heritage Fund Contribution:	0.500
■ Total Solutions Before Tuition:	11.450
■ Tuition (total, before aid removed)	2.000
■ Total Solutions	13.450
■ Total remaining (unallocated savings)	(0.950)

tuition, including the 30-per-cent set-aside for student aid. All sources of financial aid will increase the allocation to more than \$11 million for student aid in 2000/2001.

Miles reported that the identified solution totals \$13.45 million, leaving a "gap" of \$950,000 (see Chart 3), which Rozanski will present to B of G. Miles said he is fairly confident the "gap" can be filled by one-time year-

end savings or by exceeding enrolment targets, but this cannot be confirmed until July, when the 1999/2000 fiscal year-end results are finalized.

The full text of the budget, along with recommendations from EMC and the Student Budget Advisory Group, is available on the Web and can be accessed through the "News" section on the University's home page.

The L.M. Montgomery Circle Widens

New library gift expands knowledge of Montgomery and Canadian publishing

SITTING in the McLaughlin Library archives recently, I opened one of L.M. Montgomery's books and found a letter tucked inside that was written in her own hand and seemed to be addressed to me.

"To my friend, greetings," she began. "For you are my friend, are you not, whoever you may be to whom this letter is intended?"

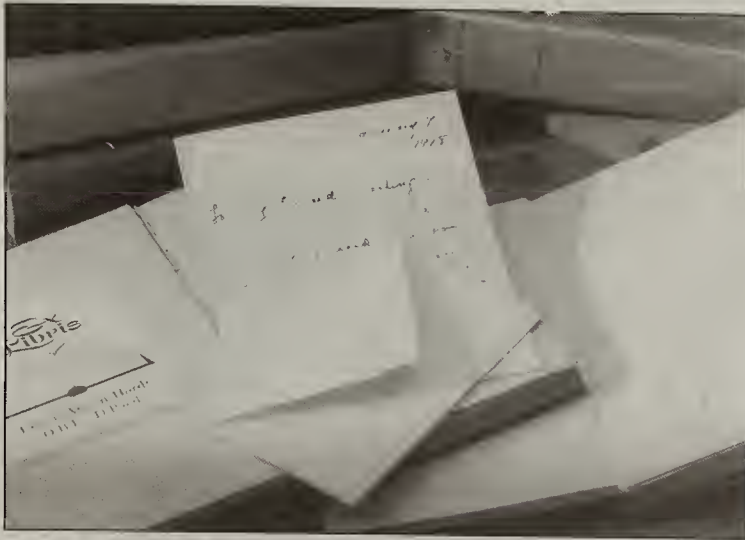
There is more in the letter and much more to learn from the gift that brought it to the University of Guelph.

The four-page note was hidden in one of 18 Montgomery books — most first or early editions — that are the central feature of a gift of more than 150 publications from Mary Harvey of Brampton. They came from the personal collection of her grandfather Edwin Hardy, who was a contemporary of Montgomery's and an important supporter of Canadian poets and writers. Like Montgomery, Hardy held the Order of the British Empire, but he was a collector of books rather than an author. Head of English at Jarvis Collegiate in Toronto, he also founded the Ontario Library Association and was national secretary of the Canadian Authors' Association, among many other roles he played in Ontario's education and library sectors.

Harvey says her grandfather's library once contained as many as 6,000 books, accumulated through his connections in the authors' association and the World Federation of Education. Some were dispersed shortly after his death, but the smaller collection of several hundred books of Canadian poetry was kept in the family and passed on to Harvey.

She says she contacted the U of G Library because of its extensive Montgomery archives and because she wanted to preserve her grandfather's books for future study. And of course, there's a strong family connection to Guelph. Harvey's husband, John, earned a BSA here in 1948 and an M.Sc. in 1950, and their son Peter graduated with a B.Sc. in 1978. Her brothers, Robert and Allan McConney, are also Guelph graduates, as are several nieces and nephews.

After completing a PhD in the United States, John Harvey taught at



This letter from L.M. Montgomery was tucked into a poetry book recently donated to U of G.

PHOTO BY MARTIN SCHWALBE

OAC for a few years before moving into industry, and Mary Harvey herself taught physical education at Macdonald Institute for about a year during her husband's graduate studies.

Bernard Katz, U of G's head of special collections and library development, says the Harvey gift included several books of fiction and a large number of poetry volumes to add to the U of G Library's already extensive collection of Canadian literature. But there's no doubt, he says, that the 18 Montgomery books are the most important in terms of rarity and their value in expanding our knowledge of Canadian publishing in the early 20th century.

Sixteen of the books are signed by Montgomery, and there are three copies of *The Watchman*, her only book of poetry. There was only one Canadian edition of *The Watchman*, printed in 1916, yet these books show two different bindings, and one copy has a rare dust jacket, which itself is different from a fourth copy of the book that was already part of the U of G collection.

Why the differences? Although Montgomery was an established novelist by 1916, Katz speculates that her publisher at the time, McClelland,

Goodchild and Stewart, may have been unsure about the selling power of her poetry. The Harvey gift provides evidence in the fact that *The Watchman* is priced at \$1 on the dust jacket, whereas a 1923 edition of *Emily of New Moon* sold for \$2. "It's likely that the four poetry books were all printed at the same time, but were

"If you were not my friend, knowing me and liking me a little through my books, you would not care to make your heart glad."

bound months or even years apart as new orders came in," says Katz. "The dust jackets vary in colour and carry different ads for other books published by McClelland."

These discrepancies give scholars a new reason to pore over Guelph's holdings of Montgomery's journals and papers — she kept detailed records of her business affairs — and the publisher's archival records, which are housed at McMaster University. That university was also a

beneficiary of Mary Harvey's generosity, adding several of her grandfather's books to its already extensive Canadiana collection.

Montgomery was living in Leaskdale and then Norval, Ont., when she signed the books found in Hardy's collection, most in 1921 and 1931. Prof. Mary Rubio, Literatures and Performance Studies in English, says Montgomery maintained strong ties with the Toronto literati and journalists.

"She often went down to Toronto to attend book fairs and social events until after the war ended and she became too harassed by family duties," says Rubio, who is currently writing an official biography of the famous novelist. "Whenever she spoke in Toronto, Montgomery drew huge crowds of hundreds of people because she was so well known and beloved as a writer, as well as such an entertaining public speaker."

Rubio says Hardy's books may have been signed at a book fair or given to him by Montgomery as a gift. "He was often an organizer of literary gatherings and knew absolutely everyone on a fairly intimate basis," she says. "He was a much-respected literary figure and teacher, and people gave him their new

books, hoping he would read them and promote them if he thought they were good."

Harvey says her grandfather never learned to drive, so after she turned 16, she chauffeured him to many literary and art events in Toronto. On one occasion, she drove him to Montgomery's Toronto home for a visit, and that's when she met the author whose autographed books filled the shelves of her own home. "I grew up reading from a complete set of Montgomery's novels," says Harvey. "Relationships were much more formal in those days," she adds, "but I think my grandfather and Montgomery were friends, although he would never have called her by her first name."

The letter I think of as my own is dated Jan. 7, 1918, but it was found tucked inside a copy of *The Watchman* that Montgomery signed in 1921. Harvey didn't know the letter existed until Katz first found it in the book, but says it was quite common for her grandfather to stuff his books with letters, notes and clippings about the authors.

The tone of the little letter is almost whimsical, but it also reveals Montgomery's awareness of her own popularity: "If you were not my friend, knowing me and liking me a little through my books, you would not care to make your heart glad." How do we know it wasn't written for me or some other distant fan of Montgomery's *Anne of Green Gables* series?

I like to think the author was awed by the popularity of her novels and inspired to write this note as if it were a note to all her readers, then tucked it inside a volume sitting somewhere on a Toronto bookstore shelf. Katz, however, thinks the note was probably written as part of a publisher's promotion, and Rubio agrees. Montgomery was an active participant in the promotion of her books, and the note would have been a playful little bonus hidden in one of the books the author donated as a book fair prize.

We may never know Montgomery's motives, but for now, it's the only known letter of its kind and one that is certain to spark the curiosity of scholars and readers alike.

BY MARY DICKIESON

Getting a Grip on Bacteria

New technology detects and types toxin-producing bacteria

NEW ADVANCES in rapid detection and typing of toxin-producing bacteria are on the horizon at Laboratory Services, U of G and Health Canada have signed an agreement with Third Wave Technologies of Madison, Wisc., to use the firm's patented platform technologies for improving ways to find and identify Shiga toxin-producing *E. coli* (STEC) bacteria.

There are more than 100 types of

STEC bacteria. Infection of humans by these micro-organisms can cause a variety of symptoms, including diarrhea, kidney failure and, in severe cases, death. The O157:H7 *E. coli* is the most commonly reported — it's the culprit known to cause "hamburger disease." In recent years, outbreaks of O157:H7 infection have been linked to contaminated meats, non-pasteurized apple juice and alfalfa sprouts in Canada, the United

States and Japan.

Various methods are available for detecting these potentially deadly bacteria in food, but none can simultaneously detect and type STEC bacteria. If bacteria are found, they must be isolated in an expensive pure culture to determine their type, a process that can take weeks.

That's where the collaborative research of Health Canada, Lab Services and Third Wave differs. It will

enhance a current Lab Services fluorescent detection technology by allowing it to simultaneously detect and type different kinds of STEC bacteria without using pure culture. This improved method should take only 36 hours.

"With Third Wave's platform technologies, we believe we can provide faster, less expensive and more accurate detection and typing of STEC bacteria," says Shu Chen,

new-technology development leader at U of G's Molecular Supercentre.

Chen says the new technology will help to rapidly minimize the transmission of these bacteria through the food chain and identify the sources of contamination. "We believe this new method will be important for food testing and also for screening other sample sources," she says.

BY CAROL PILLEY
OFFICE OF RESEARCH

FOOD FOR THOUGHT

"Conventional foods are rarely subjected to the extensive testing and evaluation GM foods must undergo"

By DOUGLAS POWELL

A RECENT ARTICLE on the Council of Canadians Web site called "Food Safety of GM Crops in Canada: Toxicity and Allergenicity" (Clark, 2000) levels criticism at the handling of genetically engineered (GE) foods by Canada's food regulatory system (the article can be viewed at www.canadians.org/ge-alert/).

The primary charge was that toxicity was not actually tested or measured on 70 per cent of the 42 GE crops approved in Canada and that allergenicity was not assessed through lab or feeding trial measurements on any of the 42 GE crops. But rather than provide references to the decade-long scientific discussion of potential allergenicity and toxicity from GE foods (OECD, 1998; OECD, 1993; WHO, 1991), the paper's authors repeatedly state that any explanation is "the usual heuristic reasoning." The only references in the article entail simple examinations of the Health Canada and Canadian Food Inspection Agency Web sites.

In a Jan. 21 news release, Health Canada stated that the authors based their conclusions "on the information contained in decision summaries posted on Health Canada's Web site," which are intended only to provide the public with general information on products that have undergone a safety assessment according to the criteria published in Health Canada's guidelines for the safety assessment of novel foods. Because the authors did not review those guidelines, the conclusions "are misinformed as they disregard the entire approach to food safety assessment." (The complete Health Canada response can be found at: http://www.hc-sc.gc.ca/80/foodalimen/english/subjects/novel_foods_and_ingredient/health_canada_response_gmo.html).

In Canada, all novel foods, including genetically modified (GM) foods, whether derived through genetic engineering, mutagenesis breeding or other techniques, must be evaluated by Health Canada for food safety before they can enter the food system. The basis of novel food-safety assessments by Health Canada scientists is a comparison of each novel food with a conventional counterpart and requires a critical evaluation of information provided in accordance with the guidelines for the safety assessment of novel foods (Health Canada, 1994). For GM foods, this includes a description of the food product; detailed information about its proposed use; molecular, biochemical, toxicological, nutritional and allergenicity data; an estimate of dietary exposure; and anticipated use patterns by the average consumer and by population subgroups (McIntyre, 1998). This process is generally referred to as the establishment of substantial equivalence.

Claims that substantial equivalence necessarily means GE foods are assessed only on the basis of their chemical composition is a fallacy. In addition to demonstrating a history of safe use and/or a relation with endogenous food proteins, GE plant products are normally subjected to compositional comparison with non-GE counterparts as well as feeding trials. These trials, or acute toxicity studies with laboratory animals, normally use either transgenic plant products in the feed formulation or high concentrations of transgenic protein purified from a bacterial or plant source.

Livestock feeding studies using insect-resistant corn (Brake and Vlachos, 1998) and cottonseed (Berberich et al., 1996; Fuchs et al., 1993) or herbicide-resistant soybean (Hammond et al., 1996; Padgett et al., 1995) have not shown significant differences in nutritional composition or wholesomeness when compared with feeds containing non-transgenic components.

The application of standard toxicological methodologies as an analytical method for detecting safety concerns ascribed to GE foods is limited by a number of factors, including the animal model, its dietary preferences and the levels of other nutritional and anti-nutritional factors that naturally occur in the food. Even subjects eating unmodified foods can display abnormalities because essential nutrients can be toxic at high enough lev-

els. MacKenzie (1999) reports a study conducted by Harry Kuiper of the State Institute for Quality Control of Agricultural Products in Wageningen, Netherlands. A GE tomato was freeze-dried and fed to rats at a rate equivalent to consumption of 13 fresh tomatoes a day. Kuiper was unable to determine the toxic threshold for the GE protein in the tomato because the rats' diet contained the maximum amount of tomato that could be fed without the animals being poisoned by basic nutrients, such as potassium, in the tomato powder.

Nevertheless, toxicological screening remains a useful tool in food-safety evaluations when it is used to assess purified transgenic proteins. For example, as part of the safety assessment for Colorado potato beetle-resistant potatoes, high doses of purified cryIIIA protein (5000 mg/kg body weight) were administered to lab mice. Based on the average human consumption of potatoes and the level of expression of the cryIIIA protein in transgenic tubers, this dosage represented a 2.5-million-fold safety factor. Adverse effects were not observed in the test animals, nor were there any effects on food consumption, weight gain or gross pathology (Lavrik et al., 1995).

The attempt to improve any food can possibly lead to unexpected consequences. That's why safety regulations and assessments are designed to minimize such risks. In one instance in a lab, for example, a human allergen was transferred from one crop to another. During the preliminary assessment process, the company immediately discontinued the experiment.

The approach used by Health Canada and other international regulatory authorities to assess allergenicity is thoroughly documented in the publication *Allergenicity of Foods Produced by Genetic Modification* (IFIC and ILS, 1996) and involves a comparison of characteristics associated with proteins that are known food allergens. These include molecular weight, resistance to digestion and heat and other conditions encountered during food processing, amount present in the final food and amino acid sequence homology with known allergens. Food allergenicity experts have repeatedly stated that animal models could not be used because none exist that reliably predict human response to proteins of unknown allergenic potential.

More fundamental, however, is that conventional foods, with very rare exceptions, are not subjected to the extensive testing and evaluation that GM foods must undergo in Canada. Therefore, the use of substantial equivalence in assessing novel foods provides a scientifically critical and defensible measure for food-safety evaluation that is additional to other regulations

for so-called traditional foods. The methods by which GM food safety are assessed continue to be scrutinized, and scientists from the 29 industrialized countries of the Organization for Economic Co-Operation and Development are working to develop a more rigorous system for the evaluation of GE food — and indeed any food — for future use.

A more complete overview of substantial equivalence, with references, including dissenting scientific articles such as Millstone et al., 1999 can be found at www.plant.uoguelph.ca/riskcomm/plant-ag/se-response.htm.

Prof. Douglas Powell is a faculty member in the Department of Plant Agriculture.

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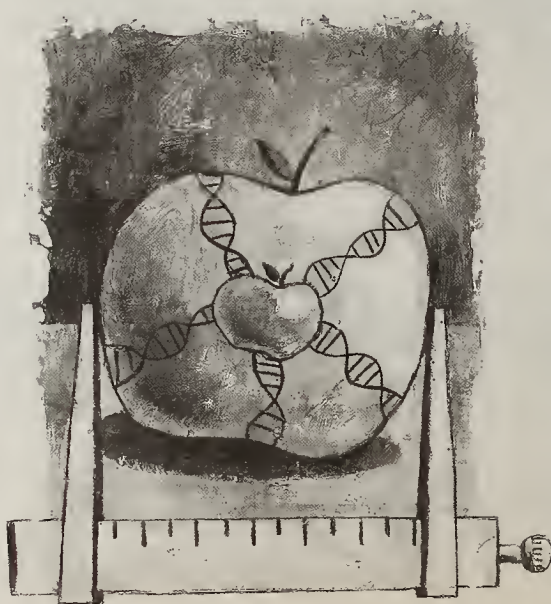
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A FAMILY PORTRAIT

Photographer's University ties span the 20th century and include the U of G shepherd

By ANDREW VOWLES

WHAT WAS THE BEST PART about growing up with a veterinary pathologist for a father?

Dean Palmer grins as he recalls the samples that his father, Nigel, used to bring home from the office for his children's school projects.

That dissected lamb certainly made an arresting science fair entry for Dean's sister one year. And then there was the eye-catcher that Dean himself took to show his grade-school classmates. "I remember having the best things for show and tell," he says. "I had cow eyeballs once — that was great."

Unlike some artists, Palmer has left his animal-parts phase behind him, choosing to draw viewers through his signature black-and-white portrait photography. Among the Guelph-area clients of his downtown studio, called The Scenario, are several departments around his U of G alma mater — what is arguably his family's second home.

Since the late 1800s, the University campus has been classroom, workplace and playground for five generations on both sides of Palmer's family. Besides claiming ties to all three founding colleges, his lineage includes not just the veterinary pathologist but an entomologist and even the former University shepherd. Given that pedigree, perhaps it's no surprise that when Palmer totes his tripod and camera bag on campus for an assignment, he often finds a personal connection to the location — and even to the individual he's photographing.

Last year, he got a chance to reacquaint himself with his former drama professor Judith Thompson, whom he shot for a *Guelph Alumnus* profile. Called recently to photograph physics professor Elisabeth Nicol for an @Guelph story, he gave his characteristic ironic chuckle over the phone, then said, "I know Elisabeth, she's my next-door neighbour."

Sitting in the sunshine behind Alumni House, he says: "When I'm here, it's not like six degrees of separation, it's like two degrees." For example, you need look no further than that grey board-and-batten building behind him.

Occupying a table in the foyer of the former sheep barn is a stuffed sheep, presented in 1992 when the building was rechristened as the home of the University's alumni, development and public affairs functions. As noted on the accompanying brass plaque, "Mary" the sheep was a gift of Harry Palmer, Dean's great-uncle, who retired in 1965 after 37 years on campus.

For most of that time, Harry had been the University shepherd, tending up to 120 sheep used in teaching programs and helping students prepare their entries for College Royal showings. He lived on campus at the entrance to Arboretum Road, roughly where today's child-care centre stands, next door to the sheep barn.

Harry had arrived at the University through a lucky break. Having emigrated from England in 1927, he had taken whatever work he could find, including laying track with a railroad gang in Guelph. His landlord offered him a day's work in the dairy



barns of the Ontario Agricultural College — a day that turned into almost four decades and allowed him to apply the shepherding trade he'd learned in his native Northamptonshire.

Harry was only the first of his family to emigrate from England. During the early 1950s, his nephew Nigel came to Canada as a teenager and eventually completed his studies at OVC. He retired a few years ago as a veterinary pathologist with the Ontario Ministry of Agriculture, Food and Rural Affairs.

Dean Palmer says his father was highly regarded in his field — Nigel co-edited a basic text called *Pathology of Domestic Animals* — but was never much for protocol. "This sums up my dad," says Dean, recalling a photo session at which his father presented his book to several University and government dignitaries. "They ended up killing the photo because Dad wore his coveralls."

Nigel had married Judy Goble, who graduated from the Macdonald Institute in 1962, two years before the institute, OVC and OAC came together to form U of G. Until her retirement about five years ago, Judy worked as a teaching assistant in the Department of Chemistry and Biochemistry.

Dean recalls childhood visits to the University and taking in the sights — and smells — of the labs in the Chemistry and Microbiology Building and at OVC, where his father worked.

For variety, Dean would head over to see entomologist Harold Goble, his maternal grandfather, who had graduated from OAC in 1931. Goble wrote papers and bulletins on biology and control of insect pests and advised farmers and home gardeners alike on pest-control strategies. "I have memories of him at work in Graham Hall," says Dean. "I remember I loved going there during College Royal because they always had chocolate-covered grasshoppers."

His maternal ties to U of G go back even further. It was in 1900 — the same year Harry Palmer was born in England — that Dean's great-grandfather Fred Goble graduated from OAC. As with the University shepherd-to-be, farming was in the Goble blood. Fred's ancestors had arrived in Canada along with the United Empire Loyalists and settled down to farm around what is now Gables near Woodstock.

Perhaps it was those childhood visits to U of G that Dean paid with his two sisters — including the occasional toboggan outing to the Dairy Bush hill — that ingrained something in the three siblings. They all attended U of G in turn. The eldest, Barb, spent only one year here, although her husband, Jim Patterson, graduated from OVC before co-founding a local pet food company.

Dean's sister Donna is the most recent family graduate. Now working at a Caledonia veterinary clinic, she graduated from OVC last spring, nearly a century after her great-grandfather carried his OAC degree back to Woodstock. Extending the chain at this end of the century, Dean brought his own children, Audrey, 3, and Felix, 1, to their first College Royal this year. No

chocolate-covered insects, but...

In a family of scientists and farmers, Dean stands out for having chosen undergraduate studies in history and drama. "I'm the unscientific one," he says.

Two years after graduating in 1993, he turned his longstanding interest in photography into his full-time occupation. Always a camera buff — after his father lent him a camera, he turned the basement wine cellar into a darkroom — he had tried to work his hobby into every U of G assignment, including his undergraduate history thesis on wedding photography.

Although he still does the occasional wedding, most of his work for area clients and for his own portfolio ranges more widely. He's developed what he calls a graphic, almost theatrical style of portrait photography that plays well in black and white — a throwback, he suspects, to his lifelong fascination with classic films from *Casablanca* to *Psycho*.

"The variety in faces is so incredible, the architecture in a face," he says. "Someone told me that my photos tend to show people who they are. I think that's the ultimate compliment: 'That is so much a photo of me.'"

That style is evident in his current exhibition adorning one restaurant wall of the newly renovated Bookshelf in downtown Guelph. Called "Canadian Authors," the collection consists of portraits of 10 writers, including Thompson, U of G English professor Thomas King and several other writers with ties to the University.

Palmer, who first got turned on to Canadian literature while a student at Guelph, began photographing authors at the Eden Mills Writers' Festival two years ago. "It's a labour of love," he says of a project that he hopes will eventually yield enough portraits for a book of his own.

PHOTO BY THOMAS KING

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NO PINS, PLEASE!

I want to express my concerns about the University's recent employment equity survey. First, I believe the process is coercive and intrusive. Each form has a personal identification number, so if you choose not to return it, you can expect to receive a second copy by mail, followed by a phone call. Free choice and respect for privacy mandate a completely voluntary process with no possibility of tracking employees who choose not to complete the form. I cannot condone dishonesty, but I was amused by the response of one employee who filled in the wrong answers to all the questions! I was not amused by the response of another employee who was offended by the survey, but filled it in because she thought it was required.

Second, I do not accept the assurances given in the census brochure that the data will not be used to interfere with merit-based hiring. Assessment of individual merit has no need of such data, but employment equity does. Employment "equity" implicitly aims to achieve equal distribution of employees among arbitrarily selected groups of people. The result, on average, is selection of less qualified applicants.

In the January 2000 newsletter of the Society for Academic Freedom and Scholarship (www.safs.niagara.com), behavioural psychologist Doreen Kimura says: "The approximate ratio of applications for faculty positions in Canada is two men to every woman. Assuming that men and women applicants are equal in range of quality, the chances that the best person for the job will be a man are approximately two to one. Yet, several studies in Canada have shown that women are being hired not the expected one out of three times, but in significantly higher proportions. This

must mean that we frequently are not hiring the best person."

It's important to ensure that hiring is objectively based on merit and that disabilities or other personal characteristics are not arbitrarily used as excuses not to hire, but the survey data are not necessary to provide this objectivity. The data may have some valid use, but they must not be collected in a way that appears coercive. No PIN numbers, please!

Third, the process is a waste of finances. I don't have numbers to report, but consider that there are five consultants, 21 committee members, personnel costs from at least two administrative departments, personnel time to be invested in follow-up meetings in all colleges, printing and mailing costs, and personnel costs required to monitor employment equity on an ongoing basis. Yes, there is the federal threat of withholding grants, but if that's the principal reason for completing the survey, then do it at minimum cost and in the least intrusive way. Make it clear that completing and/or returning the survey is optional. Did I mention about not using a PIN?

Last but not least, the more we count people by categories, the more we accent arbitrary or unimportant (with respect to employment) distinctions and thereby exacerbate discrimination. The brochure makes apology for categories not yet recognized on the survey. So, be patient. It's only a matter of time until there will be pigeonholes for everyone, and then we will all be equal.

Prof. Art Hill, Food Science

A HAPPY ENDING

I wish to commend everyone involved in making this year's College Royal another success and to extend my thanks to a certain individual at OVC.

We particularly enjoyed visiting OVC's Teddy Bear Surgery. My children were so excited to bring their stuffed animals with them to have a "real" animal doctor give them a checkup and perform surgery. The students were wonderful with the children.

Unfortunately, on getting into our vehicle to leave U of G, we realized that my five-year-old's cherished friend (a stuffed puppy that he's had since he was born) and gloves were missing. I called OVC's Large-Animal Clinic Saturday around 6 p.m., not really hopeful of finding our lost friend. To say the least, my child was very upset on our way home from the University. The only reminder we had of this little friend was a photo taken of both my boys and their friends at the Teddy Bear Surgery. His eyes filled with tears as he looked at it all evening.

I spoke to someone named Louise (I never did get a last name), and she took all the details of our stuffed friend. She said she would be in the office first thing Sunday morning and would look and ask around. We received a phone call Sunday morning from her to say she had found a pair of boy's blue gloves and a stuffed toy resembling a lamb. It really didn't sound like our puppy, but I was happy enough to pick up the gloves and to see if it was, in fact, my son's stuffed animal. We arrived at OVC, and Louise handed me the gloves and his puppy! I couldn't believe it. I thought for sure someone would have picked him up and taken him home.

I would like to say a big thank you to Louise for all her help in finding our lost friend. She went out of her way to make my child happy and I really appreciate that. All staff were very friendly throughout the campus.

I've been attending College Royal since I was a little girl, and it is always a pleasure to attend the open house. I hope it continues for many years and that my children, when grown, can enjoy all the interesting displays and activities with their children.

If not for Louise, this year wouldn't have had such a happy ending. She went out of her way for us. Funny how something as little as a stuffed toy brings out the caring thoughtfulness in people.

Carol McGuigan, Guelph

TAKING CARE OF BUSINESS

In the March *Atlantic Monthly* article "The Kept University," a subsection titled "The University as a Business" describes U.S. university activities in profit generation: patents, fostering and supporting professor-led new technology companies (which compete with other private firms), purchasing equity shares in professor-initiated and -controlled private enterprises, etc.

At Guelph, we're taking profit seeking and competition with commercial firms a step further. We're using public revenues from sources such as the Canada Foundation for Innovation (CFI) and Ontario Innovation Trust (OIT) to construct research facilities that compete directly (and unfairly) with private enterprises, many of which are owned or staffed by our graduates. The most visible examples of U of G commercialization are the Guelph Food Technology Centre (GFTC) and the proposed facility for social and food-safety communications research (FSFSCR).

Many private firms provide food-development and food-testing facilities at a competitive rate to agri-food firms. The GFTC duplicated some of these services and placed the

University in direct (tax-subsidized) competition with commercial food research firms (David Menzies, *Food in Canada*, April 1996). The FSFSCR proposal is to spend \$3.75 million (80 per cent from CFI and OIT) to add social science/communication research facilities to the FACS Building — a focus group facility, computer-assisted telephone stations, a sensory evaluation lab and a research theatre. They duplicate facilities provided by many privately owned firms that are readily available for academic researchers to rent most anywhere in Canada, including Guelph. U of G faculty can and do rent these facilities from time to time. And we already have a focus group facility in FACS that is seldom used for research.

The bottom line of the FSFSCR proposal is that Guelph will to some degree compete against private research firms for the same commercial clients and research budgets, with tax-subsidized facilities. This is a misuse of public funds and inappropriate for a non-profit public education institution.

If universities use public funds to compete with private enterprise, they should lose their tax-exempt status and pay taxes, pay dividends to shareholders (taxpayers), amortize the capital investment, etc.

The justification for the proposed FSFSCR facility is primarily to research "Canadian consumers' attitudes, knowledge levels, beliefs and value systems, the impediments to acceptance of new technologies, information required to make informed choices and concerns about biotechnology." The recent *Guelph Alumnus* article "Sensational Science or Science Fiction" says FSFSCR's mandate will be "to determine what consumers need to know to feel safe."

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LETTERS

These statements suggest the facility will be used to learn how to get consumers to accept biotechnology and genetically modified foods. Public concerns about biotechnology and genetically modified organisms (GMOs) seem to be focused on the long-term effects of these engineered, synthetic manipulations of nature on human life and health and the environment. All that's needed to overcome "the impediments" to consumer acceptance is unbiased evidence of the long-term safety of each genetic manipulation. The *Alumnus* article and other media coverage reveal that advocates of biotechnology (so far) have been unable to identify existing unbiased evidence about the long-term effects of biotechnology or GMOs.

The *Alumnus* article states: "People use herbal remedies without questioning them, despite the fact they undergo no testing." But herbal remedies have been subjected to more than 30 centuries of trial-and-error safety testing. Unfortunately, this testing resulted in many deaths and illnesses until the long-term effects were discovered. With respect to tobacco, one has to smoke for 30 or more years before the consequences become apparent. It's not unreasonable, therefore, that consumers want evidence of long-term consequences before accepting GMOs.

Can we be assured that the Canadian regulatory system, claimed by some to be the best in the world, will protect us? It's clear from the evidence in "The Kept University" and the Nancy Olivieri case that developers of products and those who profit from them are biased. It's less well known that, over the last decade, Ottawa and the provinces have been divesting themselves of direct responsibility and accountability

for testing food and drug safety. As Olivieri's accounts illustrate, Canadian drug testing relies almost completely on research and evidence provided by the developers and advocates of new drugs. Responsibility for assessing the safety (for humans) of new food products is assigned to Health Canada (not the Canadian Food Inspection Agency). But the processes for obtaining approval of new foods are less stringent and just as biased as those applied to new pharmaceuticals. So even if GMOs are declared not "substantially equivalent" and require approval, we don't have a process that can provide unbiased evidence of the short- or long-term effects of new food products.

At the recent Montreal conference, Canadian government representatives argued for allowing GMOs to be sold until evidence they're unsafe arises. Fortunately, other countries prevailed, and GM foods will at least be identified by labelling. But none of the countries seem to think it would be best to prove GMOs acceptably safe before selling them, so it appears that most world governments and the GMO industry favour using consumers as guinea pigs.

At a recent forum on corporate sponsorship, Prof. Keith Cassidy said a university's only true asset is its credibility. Unfortunately, with respect to agri-food issues, Guelph has long been a "kept University" and is now becoming a "taking care of business" university. The more Guelph scientists publicly argue for consumer acceptance of new agri-food technologies (rather than provide unbiased evidence of long-term effects), the more research dollars U of G receives from agri-food firms and the more Guelph competes (unfairly) with private re-

search firms, the less credibility we will receive — and deserve to receive — from the public.

Prof. John Liefeld
Consumer Studies

PREMISE OF ESSAY CONTEST WRONG

I was surprised to read only one letter of response to the March 15 insight "If I were Prime Minister" by Cory MacDonald — I had expected a litany of responses. Allow me to add mine.

In rereading the article, I admit to being at a loss to decide just where to begin because his political vision is so narrow and his thoughts so lacking in vision that one marvels that his essay was an award winner. The fault is not his alone, however, because the premise of the question put to the essay competitors is simply wrong-headed. "If you were the prime minister of Canada, what political vision would you offer to improve our living standards?" presupposes that an improvement in our living standards is the ultimate goal to which any PM should aspire.

UBC professor and ecological economist Bill Rees would disagree. His work on defining the "ecological footprint" of our society and others is ground-breaking work (pardon the pun). He has calculated just how much space on Earth is required for the upkeep of one coffee-guzzling, meat-eating, car-driving, garbage-spewing, air-conditioned North American — 18 hectare-equivalents of land. He and his colleagues also divided the available land mass on Earth by the number of people inhabiting it and came up with about two hectare-equivalents per person. This gives one a good idea of just how far our high-off-the-hog lifestyle has to drop before we achieve any sort of

global equality in this world. Of course, this also presupposes that true global equality is, in itself, a goal we should aspire to.

Judging from the tone of his essay, Cory MacDonald would, I am sure, eschew the goal of global equality in favour of the pre-eminent — and seemingly more popular goal (at least among the right-wing-controlled press) — of globalization, which he freely admits necessitates a rejection of "the nation-state, along with its concepts of sovereignty and autonomy."

I once heard on CBC Radio an interview with a high-flying, New York-based financial investor who lived in a mansion in north Toronto because New York, although a great place to work, was just too dangerous a place to raise his kids. He freely admitted that the top investors in the world are now so powerful that they can make or break national economies simply by deigning to invest or de-invest in nation-states. If nation-state governments enact something these investors don't like (environmental or labour-standards legislation, for example), the investors simply "hold the politicians' feet to the fire" and force nation-state governments to bow to their wishes, with threats of investment withdrawals. When challenged by the interviewer about the wishes of nation-state citizens who vote for politicians on the basis of electoral promises, he said this was just too bad, but "he who pays the piper calls the tune."

Is this what Cory MacDonald means by "rejecting the concepts of sovereignty and autonomy" for the sake of foreign financial investment? And is it indeed true financial investment? Stats Canada figures show that the majority of "foreign investment" in Canada is actually in

the form of acquisitions or takeovers of Canadian businesses, with all the inherent downsizing and job loss, and that little is in the form of new business investment. Cory MacDonald touts the benefits of NAFTA and the need to expand this type of trade deal. I will leave arguments to the contrary to the likes of Peter Loughheed, a former cheerleader for the trade deal who now has grave concerns about it.

Cory MacDonald also appears to have swallowed whole all the very misleading and often quite erroneous claims from the business elite about the so-called "brain drain," tax cuts and the benefits of emulating that bastion of free enterprise to the south, the United States. Would he also like to emulate the Third World poverty present in many ghetto areas of the States or the country's abysmal birth and infant health stats or the level of crime in most U.S. cities? Low taxes and a free-wheeling economy come at a price, a price that Canadians have time and again shown they are not willing to pay.

Cory MacDonald appears to be setting himself up to challenge Preston Manning and Stockwell Day for leadership of the CCRAP (or whatever it's to be called). I only hope this is the political road he follows — it will guarantee both his political oblivion and that he will never become prime minister of Canada, something the rest of us can be most thankful for!

Maggie Laidlaw
Human Biology and
Nutritional Sciences

* * *

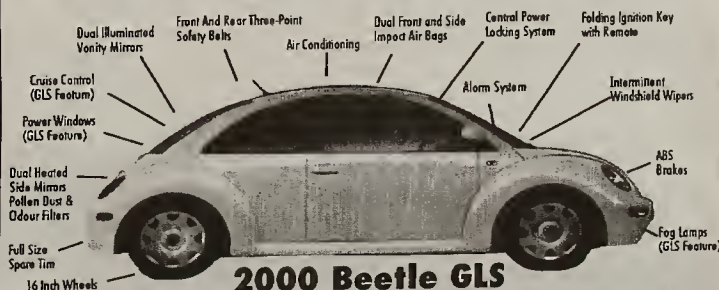
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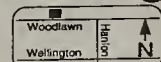
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Stores that comply with other tobacco laws are least likely to sell to underage youth

ALMOST 28 PER CENT of Ontario merchants are willing to sell tobacco to minors, with most illegal sales being made to girls and older youth, according to a U of G study.

Prof. William O'Grady, Sociology and Anthropology, also found that vendors are more willing to make illegal tobacco sales during hours when enforcement officers are less likely to be working. And stores that comply with other tobacco laws — such as posting signs and asking for identification — are least likely to sell to underage youth.

Working with principal investigator Tom Abernathy of Hamilton and Mark Asbridge of Toronto, O'Grady set out to identify and discuss factors influencing the sale of tobacco to underage people in Ontario, the first study of its kind in Canada.

The research was funded by the Ontario Ministry of Health, and the findings were published in the January issue of *The Canadian Journal of Criminology*, with limited results appearing in *Tobacco Control* last fall.

"About 90 per cent of all daily smokers begin smoking before the age of 20," says O'Grady. "Because so few people start smoking after their teenage years, prevention efforts are working to curtail access of tobacco products to young people."

The Ontario Tobacco Control Act of 1994 raised the legal age for buying tobacco to 19. It also increased fines for illegal tobacco sales to \$2,000 for a first offence and to

\$25,000 for three or more offences. These fines are among the most severe penalties in North America.

"It's well-known that youth access to tobacco remains a problem," says O'Grady, "but what is less clear is why so many merchants break the law, especially when the fines are so costly."

The researchers surveyed more than 400 tobacco retailers in 186 Ontario communities, using trained youth volunteers aged 13 to 18. Pairs of volunteers visited pre-selected stores while an adult waited outside.

"Care was taken to ensure that there would be little doubt that minors were involved," says O'Grady. "In other words, all the youths appeared to be under the legal age." Parental permission was obtained for youths under age 18.

The study revealed that the strongest influences on illegal tobacco sales were time of day, age of the youth and gender of the youths trying to buy tobacco. Findings include:

- Male teams were successful in buying tobacco only six per cent of the time, compared with 14 per cent for female teams and 22 per cent when the team included males and females.
- Older youths were more successful in their purchase attempts. The probability of sales was 13 per cent for 13-year-olds, 10.5 per cent for 15-year-olds and 65 per cent for 18-year-olds.

- Young people trying to buy cigarettes in the morning were successful only six per cent of the time, compared with an 18-per-cent success rate in the afternoon and a 21-per-cent success rate after 6 p.m.

- If a merchant complied with other tobacco-related laws such as posting signs and asking for identification, the likelihood of illegal sales was only 2.5 per cent, compared with 61 per cent when such compliance was lacking.

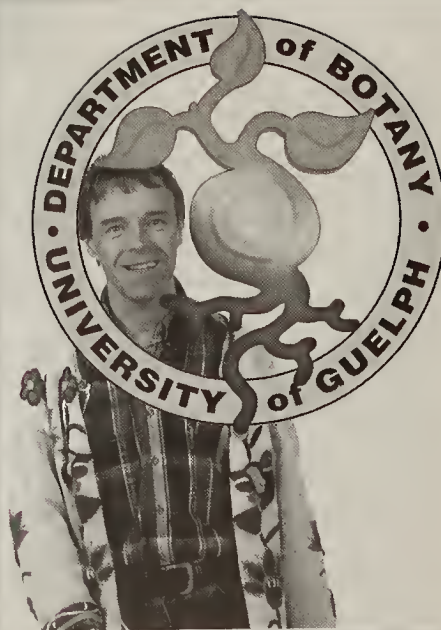
- Overall, 27.6 per cent of Ontario merchants were willing to sell tobacco products to minors, with gas stations and convenience stores having the highest "agreeing to sell" percentages at 33 and 26 per cent, respectively.

"If a vendor had reason to believe the youth was of age, they were more likely to sell the product," says O'Grady. "This explains why older youth and females, who mature earlier than males, were more successful."

Tobacco enforcement officers generally work from 9 a.m. to 5 p.m., so merchants are at greater risk of being charged during the day than in the evening, he adds.

The study suggests remedies such as passing laws to require identification checks for anyone who appears to be under 25 and extending enforcement into evening hours.

BY LORI BONA HUNT



A WINNING DESIGN

The Department of Botany has a new logo designed by research technician Lewis Melville, whose submission was chosen from some 50 entries from staff, faculty and students during a millennial contest. Melville says his three-colour organic design, depicting a seed with spiralling roots and shoot, contains "no straight lines or repeating elements, and the leaves and roots are breaking out of the boundaries of the encircling text, symbolizing nature's ability to confound our attempts to give it order or to contain it."

PHOTO BY DEAN PALMER/THE SCENARIO

Radio Fans Include Her Mom

Continued from page 1

ticularly for an academic more used to dealing in abstractions. "I'm a theorist. We tend to make hypotheses. You have to try to avoid that temptation."

She relies on the show's host to guide the discussion, including restating ideas in analogies that help their invisible audience grasp the similarity between, say, a torsion pendulum and a nursery mobile.

Occasionally she worries that fellow scientists might think she has glossed over details or neglected to tell the whole story. "You have to tell

yourself this is for the public. You try to say things in a picturesque fashion. You can't hit everybody just right."

The show often generates letters and phone calls to CBC from listeners. "I run into a lot of people who say they liked it," she says, adding that she often hears from former classmates and from at least one fan in Ottawa: her mother.

"I must admit I hadn't done much listening to the program before," says Nicol. "I regret that I hadn't been a regular listener." Now,

however, she has become one of the program's fans. "I've learned an awful lot."

For that American Physical Society conference, she wore two hats: she attended sessions as a physicist but also scribbled copious notes to use the material for last month's show. "I actually got a press badge."

Before this gig, her exposure to media had involved a few interviews for publications on and off campus. Those were less than satisfying experiences, she says, recalling one photo caption that mistakenly credited her as the discoverer of a particular material. "The hardest thing for scientists is to talk to the press," she says.

Still, Nicol believes her CBC spot allows her to convey not just the stuff of science but her enthusiasm for her work. "It's really important for scientists to explain their work. I think it's important that the public understand what we do."

So what's next — maybe a TV science show akin to *The Nature of Things*? "I don't think I'm David Suzuki," she says. "Besides, I'm not going to wear a fig leaf."

BY ANDREW VOWLES

IN THE NEWS

Prof. Doug Powell, Plant Agriculture, was quoted in the Feb. 22 issue of *The Medical Post*, talking about genetically modified foods. He was also quoted in a March 17 *Toronto Star* article about farmers and pesticide use.

The U of G Library was mentioned in a March 6 *Toronto Star* article about how libraries are changing "the rules" to compete with bookstores, including allowing food and drinks. The article quoted chief librarian Mike Ridley.

Prof. Brian Doidge of Ridgetown College was quoted in a March 8 *Toronto Star* article on corn subsidies and farmers. The article was also distributed by Canadian Press and appeared in numerous Canadian newspapers.

Research by Arboretum horticulturist Henry Kock was the topic of a March 11 column in the *Toronto Star* on Dutch elm disease. The

article detailed Kock's efforts to repopulate Ontario with elm trees that can withstand the disease.

Prof. Ann Clark, Plant Agriculture, was part of a CBC documentary that aired March 13 on *The National Magazine* about genetically modified foods.

Research by Ali Khan, Plant Agriculture, and Profs. Jane Robb and Ross Nazar, Molecular Biology and Genetics, was the subject of a March 19 *Canadian Press* story. The professors were interviewed about their research to develop a detection method for a fungus that is responsible for half of all potato losses in Ontario.

A March 23 *Toronto Star* article focused on a U of G study about the burden tuition places on low-income students. The article included quotes from master's graduate Linda Quirke and Prof. Ian McMillan, Animal and Poultry Science.

@Guelph Schedule

Publication Date	Copy Deadline
April 26	April 14
May 10	May 1
May 24	May 15
June 7	May 29
June 21	June 12

APPOINTMENTS

Elaine Chang of Philadelphia will join the School of Literatures and Performance Studies in English as an assistant professor Aug. 1.

Romita Choudhury of Calgary has been appointed assistant professor in the School of Literatures and Performance Studies in English, effective Aug. 1.

Leonie Marks of the University of Missouri-Columbia will join the Department of Agricultural Economics and Business as an as-

sistant professor July 1.

Dan Meegan of the University of Rochester will join the Department of Psychology as assistant professor Aug. 1.

Lana Trick of Richmond, B.C., will join the Department of Psychology as assistant professor Aug. 1.

Michael Wirth of Cheltenham, Australia, joined the Department of Computing and Information Science as assistant professor April 1.

CLASSIFIEDS

FOR SALE

CCM men's five-speed bicycle, excellent condition, leave message at 836-3252.

Yamaha PSR220 keyboard, 100 background styles and instrumental voice selections, one-touch setting and chord memory, Irene, Ext. 6758.

1990 Pontiac Sunbird, two-door, four-cylinder automatic, sunroof, gauge package, power train, new exhaust, alternator, front brakes and rear shocks, includes four JL-10wv subs in custom-built box, 846-0769 after 5:30 p.m.

Modern dining room table with six chairs, dark glossy wood, chairs have high backs and white seats, excellent condition, Louise, 763-2284.

Pale green mini window blinds, 43 inches long, 22 1/4 inches wide, new, custom-ordered, Ext. 6208 or send e-mail to bcardow@uoguelph.ca.

Sega Genesis, 16-bit controller plus three games, including Sonic the Hedgehog, Mortal Kombat and Alien 3, Ext. 6183 or 829-2299 after 6 p.m.

Two tickets anywhere Air Canada flies, valid until June 14, Maggie, 822-2952.

Full-size violin, leather case, instructional method book, never used, mint condition, 837-1803.

1997 gold/tan Saturn sedan, four-door, five-speed, power steering, air, original owner, 72,000 km includes extended warranty to six years or 120,000 km, leave message at 836-9652.

Large Little Tikes children's sand-box/pool, good condition, 836-0125 after 5 p.m.

1987 Mercury Tracer, four-door hatchback, automatic, one owner, all records, reliable, 184,000 km, Ext. 2623 or 763-6368.

Quick Tax Program 1999, brand new, Ext. 8308 or send e-mail to cindy@physics.uoguelph.ca.

Maple syrup and maple butter, Brenda or Mark, 826-6830.

Large dog crate, apartment-sized washing machine, dusty rose ceiling fan with three lights, Linda, 767-6225.

Computer, AMD K6-11400CHIP, 128 MEG RAM, 4 GIG HD, USR 40X CD, USR 56K voice modem, bilingual keyboard, includes assorted software; Peugeot Horizon hybrid bicycle with helmet and accessories; Apollo triathlon bike with computer and bottle; Schwinn Bowflex exerciser with belt; Clearnet phone with case and charger, digital only; leave message at 767-1333.

1987 Starcraft Astrolight hard-top tent trailer, sleeps four, icebox, sink, two-burner stove, one-year-old waterproof screened add-a-room, excellent condition, Michelle, 836-8875.

Handmade wooden clothes dryers, Ext. 6580.

FOR RENT

Furnished one-bedroom apartments on campus, must be affiliated with the University, available May 1, \$681, \$718 and \$722 a month inclusive; Ext. 6884.

Furnished basement bedroom, kitchen and bath shared with one other person, laundry, on bus route, close to campus, non-smoker, no pets, mature student only, \$350 a month inclusive, Helen, 822-1354 evenings.

Furnished bedroom in quiet south-end house, close to campus, bus and shopping, central air, parking, non-smokers, no pets, \$495 a month inclusive, leave message at 824-1568 or send e-mail to xiaomins@uoguelph.ca.

One-bedroom lower-level apart-

ment in adult home, newly renovated, separate entrance, air, laundry, parking, private patio, non-smoker, no pets, professional adult preferred with good employment history, available May 1, \$625 a month plus portion of hydro, first and last months' rent required, 823-0331 after 5 p.m.

Quiet, clean furnished bedroom with kitchen to share, linen provided, laundry, basement entrance, parking, non-smoker, no pets, no overnight guests, suitable for visiting student or professor, \$350 a month inclusive, 824-0950.

Two-bedroom water-view cottage, four miles north of Sauble Beach, barbecue, non-smokers, no pets, adults only, \$450 a week for July and August, leave message at 763-1236 or send e-mail to lhardwell@uoguelph.ca.

Two-bedroom furnished apartment in south-end residential home, ground level, private entrance, central air and vac, parking for one vehicle, non-smokers, no pets, \$800 a month inclusive, one-year lease beginning May 1; furnished three-bedroom home in south end, deck, Jacuzzi, air, non-smokers, no pets, available July 1 to Aug. 30, 2000, \$2,300 a month, Carol, 823-1857.

WANTED

Two-bedroom downtown apartment for single professional, starting July 1, need place with lots of light and place to keep bicycles, references available, 829-2459.

Five-bedroom house for five mature students (four females, one male), non-smokers, studios, starting Sept. 1 (will consider May 1), references available, rent between \$275 and \$375 per person a month, send e-mail to dchute@uoguelph.ca.

Furnished/semi-furnished accommodation for new faculty member from July 2000 to July 2001, Romita, 403-247-4198 or send e-mail to rchoudhury@MTRoyal.AB.ca.

Two-bedroom house or apartment for professional couple, downtown or south end of Guelph, laundry, parking, Ext. 3548 or 824-2104.

Used good-quality microscope, suitable for a gifted high school student, send e-mail to srogers@plant.uoguelph.ca.

German shepherd, aged six weeks to six years, prefer large-boned, non-registered, any colour, loving home, experienced pet person, Marshal, Ext. 8250 or 826-7866.

Student wants your gardening, design or architecture magazines when you're finished with them, leave message at 767-1993.

Room for female student from April 27 to Aug. 31, within 20-minute walk of campus, non-smoker, no pets, send e-mail to zhangzhiwu@hotmail.com.

To borrow or rent, a machine that converts eight-mm movie film to VHS video format, cralst@uoguelph.ca.

One-bedroom apartment close to bus/train station, smoker, send e-mail to jlawless@passport.ca.

Grad student seeking summer sublet, one-bedroom or bachelor apartment, up to \$300 a month inclusive, housesitting also an option, send e-mail to jentigert@hotmail.com.

Bachelor or one-bedroom apartment for business professional, 741-7663.

Two-bedroom apartment for two responsible female students for Sept. 1, laundry facilities, \$300 to \$400 a month per person, references available, send e-mail to murphyj@uoguelph.ca.

Willing to share driving or costs of a ride from Victoria Street/Belmont Street in Kitchener to U of G, arriving at 8 a.m. and leaving at 4:45 p.m., Ext. 6199.

Large room or small apartment for May 1 for a mature male part-time technician, \$400 to \$500 a month inclusive, 821-3948.

One-bedroom or bachelor apartment for quiet fourth-year female student, within 20-minute walk of campus, laundry, non-smoker, no pets, parking required, September to April 2001, Emily, 836-9182.

Small, inexpensive bachelor apartment or self-contained room in quiet home for mature female student, references, housesitting/gardening experience, Betsy, 519-433-9724 or send e-mail to bblotker@hotmail.com.

Seeking fourth-year landscape architecture student to design residential landscape, send e-mail to csousa@alumni.uoguelph.ca.

High chair, car seat, good condition, Ext. 6581.

AVAILABLE

Music teacher offering lessons on several instruments at various levels, U of G graduate, 20 years' experience, 826-9125.

Professional word-processing, camera-ready laser copy, reasonable rates, 767-1066 evenings.

Typing service using Microsoft Office and Corel, Brenda or Mark, 826-6830.

Care for your dog in my home while you travel, Cobi, 836-8086 or send e-mail to cdemmers@uoguelph.ca.

Classifieds is a free service available to staff, faculty, students, alumni and retirees of the University. Submit items to Linda Graham on Level 4 of the University Centre, fax to 824-7962 or send e-mail to lgraham@exec.admn.uoguelph.ca. For external and commercial advertising, call Brian Downey at Ext. 6665 or send e-mail to bdowney@exec.admn.uoguelph.ca.

Arkell Schoolhouse Concert Series

• Moshe Hammer and Norbert Kraft

Saturday, April 22, 2000 • 8:00 p.m., \$25

Moshe Hammer is a world-class virtuoso violinist admired for his artistic style, unique interpretations and magical tone. Norbert Kraft is a concerto guitar soloist.

• Stan Rogers Coffee House Tribute

Saturday May 20, 2000 • 8:00 p.m. • \$20

"A Coffee House in a Concert Hall" Featuring Paul Mills (aka Curly Boy Stubbs), Ariel Rogers, Brenda Lewis with Nontie Crote, Mark McNeil, John Shymko, Ian Moleworth with Bob McLean. In addition, recorded songs from Stan's collection with slides will be presented. Coffee and desserts included.

• Edward Auer — Piano

Saturday, May 13, 2000 • 8:00 p.m. • \$20

First American to win a prize in the International Chopin competition in Warszawa. In 1953, a member of the jury of the 10th Anniversary International Tchaikovsky competition in Moscow. Music of Beethoven, Schubert and Brahms.

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ARBORETUM

Horticulturist Henry Kock will lead a workshop titled "A Woodland Garden" May 2. Two sessions will be offered — from 9 a.m. to noon and 1:30 to 4:30 p.m. Cost is \$35. Registration and payment are required by April 25. Call Ext. 4110 to register.

The Arboretum will host a Mad Hat-Making Tea Party May 3 from 2 to 4 p.m. The afternoon will include an interactive talk by Melody Wren on the history, traditions and rituals of tea. Cost is \$15. Registration and payment are required by April 19.

Mary Ann Moore leads "Journaling in the Garden," a series of three workshops, May 9, 16 and 23 from 10 a.m. to noon at the Arboretum Centre. Participants will explore the gardens of the senses, colours, memories and dreams, with the assistance of nature. Cost is \$30. Registration and payment are required by April 25.

The Arboretum is offering two workshops on warblers in April and May. "Level 1: Butterflies of the Bird World" runs April 25 from 9 a.m. to 4 p.m. and includes a morning hike May 13, beginning at 6:30 a.m. "Level 2: The Less Common Ones" is slated for May 2 from 9 a.m. to 4 p.m. Sessions will be led by naturalist Chris Earley and Richard Tofflemire. Cost of the first workshop is \$63, with registration and payment required by April 18. Cost of the second workshop is \$45; register by April 25.

ART CENTRE

The Macdonald Stewart Art Centre's brown bag lunch series continues with a discussion of creativity by fabric artist Sally Melville April 18 at noon.

An opening reception for the exhibition "Linda O'Neill: Objectum Quo" will be held April 19 at 4 p.m. at the art centre. The exhibition will continue until Aug. 4.

CONCERT

The School of Fine Art and Music presents final student voice recitals April 19 at 4 and 7 p.m. in MacKinnon 107. Performing at 4 p.m. are sopranos Natasha Crockell, Heather Gunn and Stephanie Eltervoog. Performing at 7 p.m. are sopranos Daphne Lachaine and Emily Schryer. Accompanists are Mary Louise Vosburgh and Betty Maher. Everyone is welcome to attend.

NOTICES

The Guelph Food Technology Centre (GFTC) will hold its annual trade show April 27 from 9 a.m. to 4:30 p.m. at the centre. Cost is \$15 for GFTC members and \$20 for non-members and must be paid by April 20. To register, call Alistair Honeyford at 821-1246, fax to 836-1281 or send e-mail to gftc@uoguelph.ca.

Alumni-in-Action will hold its annual general meeting and spring luncheon May 10 at 11:30 a.m. at the Arboretum Centre. Guest speaker is musician James Gordon, founder of the group Tamarack. For tickets, call Carla Bradshaw at Ext. 6657.

U of G is launching a free, interactive and supportive program to help students who are trying to quit smoking. "Choose Choice" offers students trained counsellors, easy assessment, constant support and a variety of other services. For more information, call the Wellness Centre at Ext. 6150 or 3327.

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has introduced "Healthy Futures for Ontario Agriculture," a four-year, \$90-million program that targets applied research in the following areas: rural water quality, field-to-fork food safety and quality, and healthy futures innovation. Researchers can submit pre-proposals directly to OMAFRA; final proposals must be signed by the Office of Research. For applications, call 826-3898, fax to 826-4335, send

e-mail to hfoa@omafra.gov.on.ca or visit the Web site www.gov.on.ca/omafra. Information and applications are also available in the Office of Research outside Room 224 of the Reynolds Building or by calling Ext. 4807.

MFA end-of-term graduate critiques will be held April 24 and 25 in the Zavitz Hall Gallery. Members of the University community are welcome to attend.

The Guelph Food Technology Centre (GFTC) is offering a wide range of technical training courses for the food industry in May. These include technical symposiums on "Thermal Processing: Principles and Practices in Food Preservation" May 1 to 5, "Effective Training for the Plant Floor" May 4 and 5, "Canadian Food Regulations: An Overview" May 8 and 9, "Membrane Technology: Value-Added Applications" May 10 and "Microbiology 1: Practical Food Microbiology and Troubleshooting" May 23 to 25. GFTC is also offering a diploma in food hygiene and safety May 1 to 5 and a series of four HACCP programs throughout the month. For more information, call Marlene Inglis at 821-1246, fax to 836-1281 or send e-mail to minglis@uoguelph.ca.

SEMINARS

"Food, Energy and Your Weight" is the topic of dietitian Heidi Smith April 13 at 6:30 p.m. at the Health and Performance Centre. Cost is \$15. Register at Ext. 3254.

The Department of Chemistry and Biochemistry presents Louise Edwards of NPS Allelix Corp. discussing "PolyGuadinol Substituted Sugars as Anti-Viral Agents: TATAR Inhibitors for HIV-1" April 14 at 3:15 p.m. in MacNaughton 222.

The Department of Economics visiting speaker seminars continue with Byron Spencer of McMaster University explaining "Population Aging and Its Economic Costs: A Survey of

the Issues and Evidence" April 14 in MacKinnon 235. On April 27, Shulamit Khan of Boston University speaks in MacKinnon 238. The seminars begin at 3:30 p.m.

"Markers for Thermal Tolerance in Rainbow Trout: A Torrid Tale of Tepid Trout" is the topic of graduate student Guy Perry April 18 in the Axelrod Institute of Ichthyology seminar series. The talk begins at 1 p.m. in Axelrod 168.

The Department of Microbiology presents David Cotter of the University of Windsor considering "Environmental Regulation of Signalling Pathways During Dormancy and Germination of *Dictyostelium discoideum*" April 19 at noon in Food Science 128.

THESIS DEFENCES

The final examination of M.Sc. candidate Bonnie Cohen, Family Relations and Applied Nutrition, is April 14 at 9 a.m. in HAFSA 331. The thesis is "Health Behaviours of Secondary School Students." The adviser is Prof. Susan Evers.

The final examination of Kevin Segall, a PhD candidate in the Department of Food Science, is April 14 at 9:30 a.m. in Food Science 128. The thesis is "The Relationship Between Dairy Emulsion Properties and the Adsorbed Milk Protein Layer: Applications in Ice Cream." The adviser is Prof. Doug Goff.

The final examination of M.Sc. candidate Tana McDaniel, Zoology, is April 18 at 9 a.m. in Axelrod 265A. The thesis is "Direct and Indirect Interactions Between Two Ranid Frogs, Pickerel Frogs (*Rana palustris*) and Leopard Frogs (*Rana pipiens*)." The adviser is Prof. James Bogart.

The final examination of M.Sc. candidate Laura McConachie, Chemistry and Biochemistry, is April 19 at 9:30 a.m. in MacNaughton 222. The thesis is "Novel Base and Palladium

Mediated Preparations of Sulfur Heterocycles." The adviser is Prof. Adrian Schwan.

The final examination of Heather Goudy, a PhD candidate in the Department of Plant Agriculture, is April 19 at 11 a.m. in Crop Science 116. The thesis is "Evaluation of Site-Specific Weed Management and Implications for Spatial Biology of Weeds." The co-advisers are Profs. François Tardif and Ralph Brown.

The final examination of PhD candidate Bernadette Ardelli, Zoology, is April 20 at 9 a.m. in Axelrod 265A. The thesis is "A Chemotherapeutic Strategy Against Salmonid Cryptosporidiosis." The adviser is Prof. Patrick Woo.

The final examination of M.Sc. candidate Maria Urdaneta, Animal and Poultry Science, is April 25 at 9 a.m. in Animal Science and Nutrition 141. The thesis is "Quantitative and Qualitative Feed Restriction and Compensatory Growth in the Broiler Chicken." The adviser is Prof. Steve Leeson.

The final examination of Ian Walker, a PhD candidate in the Department of Geography, is May 1 at 1 p.m. in Hutt 234. The thesis is "Secondary Airflow and Sediment Transport in the Lee of Transverse Dunes." The adviser is Prof. Bill Nickling.

COMMUNITY EVENTS

The Waterloo-Wellington Wildflower Society will meet April 19 at 7:30 p.m. at the Arboretum Centre. Colleen Simmons will discuss "Medicinal Plants in Your Home and Garden." Everyone is welcome.

The Guelph Civic Museum hosts a Founders' Day History Fair April 16 from 1 to 4:30 p.m. The event will feature performances by musician James Gordon at 2 and 3 p.m. Admission is \$3 for adults, \$2 for seniors and students and \$8 for families.

Public Trusts Safety of Prepared Foods, Survey Finds

More and more shoppers are turning to convenience foods for family meals

WITH CONVENIENCE FOODS come a new concern: food safety. In the past, food-safety training for employees has been a stronger tradition in restaurants and institutional food services than in grocery stores.

Prof. John Walsh, director of the School of Hotel and Food Administration, wondered how the public feels about this. To find out, he conducted a survey of consumer perceptions of supermarket food-safety procedures — and learned that consumers generally believe the convenience foods they buy at the supermarket are safe.

This issue arises from a growing phenomenon called "home meal replacement." This refers to society's shift from meat-and-potato dinners served at 5:30 p.m. by Mom to the diversity of family structure and food shopping now available. Increasing numbers of families no longer cook meals at home where they eat together, but instead choose semi-prepared or fully prepared foods bought from the grocery store or restaurant.

Twenty years ago, the situation was different because there were two distinct shopping groups, says Walsh. One included people in food

stores shopping for family meals. The other consisted of those who bought and ate meals away from home — everyone from the lone business traveller to entire families out for dinner.

Now, with the introduction of semi- and fully prepared foods, those two groups have blurred. Grocery stores sell foods that are semi-prepared or even ready-to-eat, such as barbecued spareribs, deli-style sandwiches and potato salad.

This is where a potential problem lies. For a long time, strict regulations and standards have applied to restaurants and their employees. To

day, many restaurants have mandatory educational training courses based on food safety. But what about retailers now selling prepared food? Anyone can walk into any grocery store and buy assorted salads and hot meats. Are the store employees trained like those in commercial food service? Do the same safety standards apply? Should they? And most important, how does the public feel about this?

Walsh set out to answer these questions by conducting a telephone survey of 100 residents in Guelph and the surrounding area. Questions were simple, asking for information

such as where people shop, what they buy and which store employees they believe should be wearing gloves.

Preliminary results show the majority of shoppers (about 75 per cent) perceive food safety as satisfactory at their grocery stores and around 20 per cent find it excellent. The remaining five per cent believe food safety is unsatisfactory.

"People feel comfortable with the level of food safety in grocery stores," says Walsh, "but safety procedures and standards are different than those in the food-service industry."

BY MARIANNE CLARK
OFFICE OF RESEARCH



U E L P H

VOL. 44, No. 8

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- 5 **DEFERRED** maintenance threatens learning and research.
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- 9 **VACCINE** could give cats another life.

Software Captures Top Prize

CD-ROM named best multimedia program

A CD-ROM designed by U of G's CyberNatural Software Group that introduces students to the creatures of the Great Lakes has received a 1999 Pirelli International Award, taking the top prize in the educational division.

The CD-ROM, titled *Amphibians, Reptiles and Mammals of the Great Lakes*, won over more than 800 entries. U of G was invited to submit the program, the second in *The Great Lakes Faunal Atlas* series, for the competition.

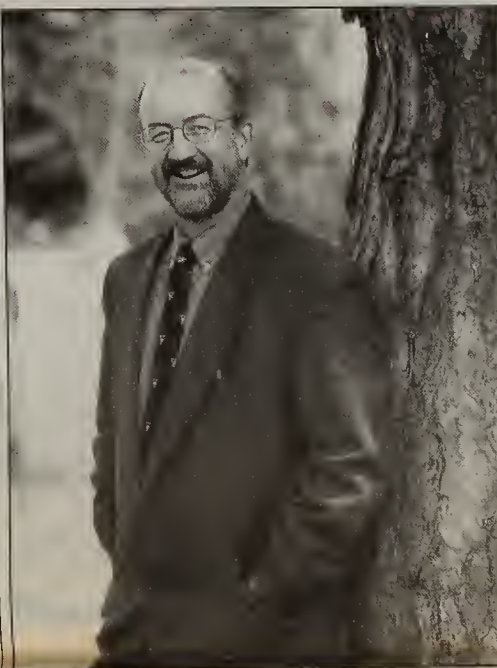
The international award is sponsored by Pirelli, an Italian multinational company that produces cables and systems for telecommunications and energy transmission, and is intended to promote science worldwide via the Internet.

U of G's program was recognized as the best multimedia program produced by an educational institution and includes a \$2,000 cash prize. The award was officially presented in Rome April 11.

"Our selection for the 1999 Pirelli Prize represents a great triumph for the digital media team at CyberNatural and positions the University as a leader in this field," says Prof. Paul Hebert, chair of the Department of Zoology, who launched the software group in 1994.

"I'm optimistic that this international award will, in the great Canadian tradition, enhance local recognition of the important role CyberNatural is playing in the crea-

Continued on page 4



Prof. Alun Joseph

PHOTO BY MARTIN SCHWALBE

Joseph Named Dean of CSAHS

Geography chair will begin five-year term Jan. 1

PROF. ALUN JOSEPH, chair of the Department of Geography, has been appointed dean of the College of Social and Applied Human Sciences (CSAHS) for a five-year term that begins Jan. 1, 2001. He will succeed Prof. Michael Nightingale, dean of CSAHS since its creation in 1998.

"Alun brings great energy and enthusiasm to the position, which will serve us well," says Nightingale. "He's an experienced chair who has led a successful department and has had significant administrative experience, not only within the college, but also serving as a member of University-wide bodies."

"I'm also delighted that from the start, Alun has been part of the team that brought together the two colleges (Family and Consumer Studies and the College of Social Science) to create CSAHS. He was part of the transition, has been integral to the process of developing the college as a single unit, has seen it through and knows what still has to be done. I feel that this place will be in good hands."

Provost Iain Campbell, chair of the search committee, says Joseph's "obvious and passionate support for

all the college's variegated activities gives him the foundation to represent the college effectively to the world beyond the campus and to build the kind of partnerships implicit to its mission."

President Mordechai Rozanski congratulates Joseph on his appointment and says he looks forward to working with him in the years ahead. "I know the University community joins me in wishing Alun much success as he works to achieve the college's goals and will support him as we work together to advance the college and the University."

For his part, Joseph says he is "extremely pleased" with his appointment and is relishing the challenge the lies ahead.

During a 25-year career, he has researched and published extensively on rural studies and, in particular, the delivery of health and social services to rural populations. He has been a member of national multidisciplinary research projects, including the Canadian Aging Research Network, examining how eldercare can be balanced with workplace and family commitments. His expertise in this area has been

Continued on page 10

Associate VP (Student Affairs) Appointed

Whiteside's commitment to students lauded

THE SEARCH COMMITTEE for the position of associate vice-president (student affairs) has recommended the appointment of Brenda Whiteside, who has been acting in the position since May 1999. The appointment, slated to go to Board of Governors for approval April 25, is effective April 13.

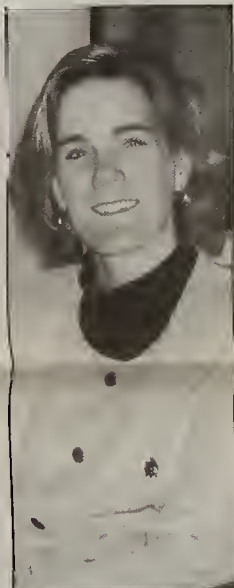
Provost Iain Campbell, who chaired the search committee, says Whiteside brings to her new role "a rare combination of integrity, energy, openness and practicality, together with a demonstrated commitment to students. The search committee was widely commended for the quality of its final short list, and I am very pleased indeed to have been able to recommend such an excellent appointment in the closing weeks of my term. Brenda will serve this university and its students superbly."

President Mordechai Rozanski says he is "delighted" to accept the recommendation. "I have worked closely with Brenda over the past seven years, and I know that her dynamic, intelligent leadership will be a tremendous asset to student affairs and to all areas of the University," he says.

Megan Garipey, Central Student Association external commissioner, lauds Whiteside for her efforts over the past year to keep student governments informed about University, local, provincial and national issues and to seek student input on various campus issues. "I think she'll do a great job in her new position," Garipey says.

Whiteside, who earned a BA in management economics from Guelph in 1982 and an MA in economics in 1983, was a lecturer in the Department of Economics from 1983 to 1988, then was appointed BA program counsellor, a position she held until being named secretary of Senate in 1991. In this position, she worked closely with senior administration, faculty, staff and students on the formulation of academic policies and procedures.

In 1998, Whiteside was appointed academic assistant to the provost. In this position, she was responsible for Co-operative Education Services, Guelph's semester-abroad programs and the Universi-



Brenda Whiteside

ty's articulation agreements. She also managed U of G's review of the new secondary school curriculum.

She was named acting associate vice-president (student affairs) following the appointment of Brian Sullivan as vice-president (students) at the University of British Columbia. In this role, she oversees the programs and services of the Counselling and Student Resource Centre, Student Health Services, Student Housing Services, the Office of First-Year Studies, the Child-Care and Learning Centre and the Athletics Centre.

She also served as a member of the finance committee of the Canadian Mental Health Association from 1990 to 1996, acting as treasurer from 1992 to 1995.

"I was very pleased to learn that I had been selected for this position," says Whiteside. "It's an honour to work at an institution that recognizes the importance of student development and support for students. I look forward to working with students, faculty and staff as this unit goes through a period of renewal in preparation for the increased cohort."

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SENATE REPORT

Unpredictability Makes Planning Difficult for 2000/2001 Budget

U OF G's 2000/2001 preliminary Ministry of Training, Colleges and Universities budget was presented to Senate for review and comment April 11.

President Mordechai Rozanski reiterated the University's disappointment in the province's decision this year to increase grant funding in the form of two non-base, targeted funding envelopes—a performance fund and, an accessibility fund—instead of through base increases to the operating grant.

Because of conditions imposed by the targeted

funds, the University won't know what level of funding it will receive for 2000/2001 for six or seven months into the budget year, he said. And because the increases aren't built into the base operating budget, universities will be faced with the same uncertainties again next year.

The unpredictability of the funding announcement has made budget planning extremely difficult, he said, particularly as the University prepares for the expanded cohort of students beginning in 2003.

The accessibility fund requires universities to at least maintain enrolment at 1999/2000 first-year student intake levels. The performance fund allots funding on the basis of three key performance indicators: graduation rates, job placement rates within six months of graduation and job placement rates within two years of graduation.

The performance funding is separated into three tiers. The first tier—the one-third of Ontario universities performing best on the indicators—will receive twice as much funding as the one-third of universities in the second tier. The bottom tier will receive nothing at all. Rozanski questioned the fairness of this tier system, noting that the differences between universities from one tier to the next were less than the margin of error involved in assessing their performance on the indicators—and all universities performed extremely well.

The president noted that although he supports performance indicators in principle, he questions whether the ones put forth by the province measure quality and are true indicators of the mission of a university. They do not, for example, make allowances for students choosing to go on to graduate school or professional school instead of entering the job market, he said.

The president informed Senate that Ontario universities are continuing to lobby the provincial and federal governments regarding concerns about base operating support and funding to address deferred maintenance, student assistance programs and the recruitment of new faculty. With the provincial budget expected in early May, universities are pressing hard for increased funding, he said.

Rozanski noted that until the University hears about additional operating funds to support the anticipated growth in enrolment over the next decade, Guelph will maintain its student intake at the level of the previous year. In the meantime, however, planning moves ahead on efforts to deal with the possibility of

increased enrolment—the Humbler/Guelph project, the Sciences and Advanced Learning and Training Centre and the double cohort planning clusters.

The president noted that because of the unpredictability of the budget situation, the University has established four long-range, multi-year budget goals—to invest in the University's quality and enhance accessibility, to balance the budget and repay the deficit, to reduce the University's reliance on one-time solutions, and to create a stabilization fund as a buffer against the effects of uncertainty in government funding. He noted the importance of eliminating the practice of relying on one-time solutions such as the pension contribution holiday, which is contingent on continued strong performance of the pension plans.

Prof. Alastair Summerlee, associate vice-president (academic) and chair of the Enrolment Management Committee (EMC), reported to Senate that EMC has recommended maintaining 2000/2001 undergraduate enrolment at the level of fall 1999 actuals, increasing graduate enrolment slightly (about 45 students) and providing additional support for teaching and learning. EMC also recommended just over a four-per-cent increase in undergraduate tuition and a one-per-cent increase in graduate tuition. Summerlee noted that the provincial tuition announcement allows universities to increase tuition by two per cent above the maximum allowable. Because Guelph has not increased fees to the maximum allowable in the past few years, it can institute the higher increase.

In addition, EMC recommended that U of G continue to expand financial aid for students, particularly those who are not eligible for OSAP, and that the University not differentiate tuition fees for any program this year beyond what is already in place. (EMC's full recommendations can be found on the Web at www.uoguelph.ca/atguelph/00-03-29/articles/emcweb.)

html.)

John Miles, assistant vice-president (finance), outlined for senators U of G's opening base revenues and recoveries and the resulting structural deficit of \$6.5 million; the impact of cuts to the Ontario Ministry of Agriculture, Food and Rural Affairs contract; salary and benefit provisions and increased utility costs; and the University's proposed \$3.27-million investment in quality and accessibility. (For more details, see the article "Budget Goes to Senate, B of G" in the April 12 issue of @Guelph or the full budget on the Web at www.fin.uoguelph.ca/Services/BudDocs/2000/PreBud.htm.) In total, the University's budget problem before solutions was \$14.4 million.

Presenting solutions to the problem, Miles said U of G is projecting it will receive \$1.4 million from the provincial performance fund and \$1 million from the accessibility fund, and expects to realize \$3.35 million from incremental enrolment increases. The University also expects to save \$5.1 million through a pension contribution holiday and will receive \$100,000 from the ancillary parking operation's annual net income. In addition, the Heritage Fund will provide \$500,000 for start-up funds for new faculty.

The solutions outlined above, combined with the tuition increase recommended by EMC (after 30 per cent is reinvested in student aid), total \$13.45 million, leaving the University with an unallocated savings target of \$950,000. Miles said he is fairly confident this "gap" can be filled by one-time year-end savings or by exceeding enrolment targets, although this cannot be confirmed until July.

Prof. Glen Van Der Kraak, chair of the Senate Committee on University Planning (SCUP), reported that the committee endorses both the budget and the recommendations of EMC. He lauded the contributions of both EMC and the Student Budget Advisory Group

Continued on page 10

@GUELPH

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CENTRE RECEIVES NEW FUNDING FROM HEALTH MINISTRY

The Ontario Ministry of Health and Long-Term Care announced April 17 that U of G's Centre for Families, Work and Well-Being will share \$4.4 million in funding to evaluate the province's "Healthy Babies, Healthy Children" program. Profs. Bruce Ryan, Kathy Brophy and Donna Lero, Family Relations and Applied Nutrition, will be involved with the project, along with Applied Research Consultants of Toronto. For more details, see the next issue of @Guelph.

PSYCHOLOGY CONFERENCE RETURNS TO ITS ROOTS

Members of the community are invited to attend the 30th annual Undergraduate Psychology Thesis Conference April 28 from 9 a.m. to 4:30 p.m. in Rooms 233 to 237 of the MacKinnon Building. More than 120 students from across Ontario will give short presentations on their fourth-year theses. The conference originated in U of G's Department of Psychology and is now held at a different university each year. For more details, call Karen Carter at Ext. 8333.

U OF G WOMEN'S CHOIR RELEASES FIRST CD

Siren, U of G's 20-member women's choir conducted by undergraduate music student Dominic Gregorio, has released its first CD. Called *first, look within*, the CD is supported by the School of Fine Art and Music and was produced with funding from the University's Student Enhancement Fund and the Gordon Nixon Leadership Award. Proceeds from the CD will support future choir projects. Copies are \$10 and can be purchased through the Web site www.uoguelph.ca/~siren, from choir members or from Dudley Gibbs at Ext. 2991.

VOLUNTEERS NEEDED

Development and Public Affairs is looking for volunteers to help with Alumni Weekend June 16 to 18. For more information about volunteer opportunities, call Ext. 6544 or drop by Alumni House.

HIGH SCHOOL STUDENTS, PARENTS VISIT CAMPUS

Hundreds of Ontario high school students and their parents will visit U of G April 27 and 28 to take part in separate back-to-back events that will acquaint them with university living and learning. Several hundred Grades 10, 11 and 12 students will visit April 27 for Guelph Interaction 2000, a day-long conference that includes campus tours and sessions on a variety of topics. On April 28, U of G applicants and their parents will attend the second annual Guelph Connection conference, featuring lectures and workshops for students and a program focusing on academics and lifestyle topics for parents.



INUIT DRAWINGS VISIT INDIA

Macdonald Stewart Art Centre director Judith Nasby, right, attended the official opening of an exhibition of Canadian Inuit drawings from the centre's collection at the Surekh Art Gallery in Jaipur, India. Nasby, who curated the exhibition, also gave a lecture and gallery talk as part of the opening ceremonies. Above, she discusses a drawing with Bina Kak, minister of tourism, art and culture for Rajasthan, who officiated at the opening.

Camp Aims to Boost Student Interest in Agri-Food Careers

Students from rural Ontario will learn about leading-edge research

ALMOST 800 Grade 8 and Grade 11 students from rural Ontario will visit U of G for two days in May to learn about Ontario's quickly evolving agri-food industry.

The students will take part in the University's pilot "Agri-Food Choices" camps — running May 1 and 2, May 3 and 4, May 10 and 11 and May 29 and 30. While on campus, they'll be introduced to leading-edge research and gain help with career planning. The ultimate goal is to interest students in future careers in the agri-food industry. Grades 8 and 11 students are participating because decisions about education/career directions are made at those levels.

The camps are the first public endeavour of the Consortium to Launch Agri-Food Career Choices Into Action, initiated last fall. Composed of representatives from seven high schools in rural southwestern Ontario and the Ontario Agricultural College, the consortium complements key features of Ontario's secondary school curriculum reform that call for greater community involvement.

Over the next four years, the consortium will teach students about the agri-food system, mentor students involved in the agri-food industry and other related projects, provide career guidance, and participate in community-based learning opportunities.

"Unless we help students explore opportunities in the agri-food system from Grade 8 upwards, they

won't be able to build enough understanding to make informed career decisions," says Carol Telford, a guidance teacher at the Waterloo-Oxford District Secondary School in Baden and one of the consortium's main catalysts.

Telford was prompted to act because of a growing need to provide more experiential learning opportunities for students at her school. Because Waterloo-Oxford District Secondary School draws students from a rural base, the agri-food system was selected as the most logical industry to study while capitalizing on available community resources.

"We tried to interest students in the agri-food system, without any luck," says Telford. "The changes have been so dramatic in the agri-food system and it's become such a sophisticated, complex, dynamic field that we were having trouble explaining it to students."

That's where OAC came in. She connected with college dean Rob McLaughlin, found other rural school boards with similar interests, and the consortium was born.

"The consortium will provide collaboration with the community and build connections between students," says Frank Robbins, academic assistant in the OAC dean's office and organizer of the Agri-Food Choices camps. "It's proven that mentoring works."

Eight U of G undergraduate students have been hired to help with the camps. They will be trained by the Ontario Agricultural Training

Institute and Ontario Agri-Food Education to interact effectively and mentor students. The camps also involve about 35 Guelph staff and faculty, who assist with mentoring as well as planning and delivering the modules.

During the camps, students will rotate through four agri-food research modules on nutraceuticals, space agriculture, fistulate cows, and best management practices for water conservation.

"We hope there will be lots of debate about issues such as biotechnology and animal welfare," says Robbins. "We want to hear what the students have to say."

Three career modules — focusing on career planning, strategies for success, and setting short- and long-term goals — will help students with decisions about their futures.

This spring, OAC representatives visited schools in the consortium to talk to students, teachers and parents about the camps and to drum up student interest. Grade 8 students from the Kincardine, Mt. Forest, Ridgetown and Delhi areas will attend the first three camps, and Grade 11 students from all schools in the consortium will attend the fourth camp.

The consortium also includes schools from Seaforth and Windsor.

For more information about the upcoming camps, check out the Web site www.oac.uoguelph.ca/OAC/CAMP2000.

BY MARGARET BOYD
OFFICE OF RESEARCH

PEOPLE

HISTORIAN HONOURED

The Royal Historical Society at the University College London has awarded the David Berry Prize for 1999 to Prof. Elizabeth Ewan, History, for her article "Many Injurious Words: Defamation and Gender in Late Medieval Scotland." The article is being published in *Medieval Scotland*, a publication edited by R.A. MacDonald, a graduate of Guelph's Scottish studies program.

ATHLETES OF THE YEAR NAMED

This year's winner of the Department of Athletics' female athlete of the year award is Pat Marcello, who had one of the most successful seasons ever played by a Gryphon basketball player. An OUA All Star and honourable mention All Canadian, she led the OUA in four statistical categories: scoring, steals, assists and defensive rebounds. She also led the entire CIAU in steals and assists. Male athlete of the year is Gryphon wrestler Matt Muscat. He was the gold medalist at the OUA championships and silver medalist at the CIAU championships. He is one of Canada's top competitors in the 54-kg weight class and is a candidate for the National Team.

ZOOLOGIST GIVES KEYNOTE TALK ON DEER ANTLERS

Prof. George Buhenik, Zoology, was a keynote speaker at the First International Symposium on Antler Science and Product Technology this month in Banff. He spoke on "Deer Antler — A Wonder of Nature. Structure and Function of Antlers, Regulation of Their Development and Their Potential in Medicine."

FOOD SCIENTISTS, ENGINEER ATTEND MEXICAN CONGRESS

Prof. Alejandro Marangoni and adjunct professor Ian Britt of the Department of Food Science and Prof. Gauri Mittal, Engineering, were invited speakers at the Eighth International Congress of Food and Engineering held in Puebla, Mexico, earlier this month. Food science professor Marc Le Maguer also attended the congress. Britt was recently elected to a three-year term on the board of directors of the Institute for Thermal Processing Specialists.

PHD GRAD WINS AWARD

Selma Guigard, a recent PhD graduate in engineering, has won the 1999 thesis award from the International Society for the Advancement of Supercritical Fluids. Her thesis was titled "Solubilities in Supercritical Fluids." She is now an assistant professor in the civil and environmental engineering department at the University of Alberta.

PHILOSOPHER GIVES TALK

Jim Gerrie, a sessional lecturer in the Department of Philosophy, presented "Silence: The Medium of McLuhan's Ethical Message" to an interdisciplinary conference hosted by the University of Windsor on the intellectual legacy of Marshall McLuhan.

IN MEMORIAM

MICROBIOLOGIST EARNED TOP TEACHING HONOURS

Prof. Norman Gibbins, Microbiology, died April 15 after a short illness. He was 63.

A PhD graduate of the University of Birmingham, Prof. Gibbins held research fellowships in Saskatchewan and New Zealand before joining U of G in 1967. During his career, he became one of the University's — and Canada's — most highly regarded teachers, earning a 1985 Ontario Confederation of University Faculty Associations Award, the 1985 CBS Award for Teaching Excellence and a 1987 3M Teaching Fellowship.

Dedicated to the pursuit of scholarship in teaching and program design, he was involved with the development of curriculum and educational policy at the departmental, program and University levels for many years. He served as chair of

the Board of Undergraduate Studies from 1983 to 1985, in 1987 and from 1994 to 1997, and served on numerous BUGS subcommittees.

Over the years, Prof. Gibbins assumed a variety of other administrative roles at the University, serving as assistant dean of CBS from 1988 to 1990, acting dean in 1989, acting associate vice-president (academic) from 1990 to 1991, director of AKADEMIA from 1991 to 1994 and chair of the Department of Microbiology from 1992 to 1995.

He is survived by his wife, Ann, chair of the Department of Animal and Poultry Science; three sons, David, Alan and Hugh; and four grandchildren, Michael, Matthew, Jennifer and Molly. A celebration of his life will be held at the Arboretum at a later date.

* * *

PHILOSOPHER WAS POET, ARTIST, STONEMASON

Retired philosophy professor John Bruce, a faculty member at Guelph from 1965 to 1984, died April 16 after a long illness. He served in the Navy during the Second World War and worked in radio in Stratford before studying philosophy at the University of Western Ontario and University of London. He taught at Western prior to joining U of G as the first chair of the Department of Philosophy, a position he held for five years. He also served as chair of the Department of Fine Art for a few months' interim period and set up the London Semester in 1970.

One of Prof. Bruce's major achievements at Guelph was the philosophy curriculum. He con-

ceived of philosophy not as a subject just for specialists, but as a primer on life that involved many ways of experiencing the world, most prominent among them artistic.

Long active in writing poetry, sketching and painting, he published a novel called *Breathing Space* in 1974. After retirement, he taught himself the art of stonemasonry and built several stone buildings and walls on a farm property near Durham. Photographs of his stonework are included in a current exhibit in the University Club.

Prof. Bruce is survived by his wife, Vida Maud; three sons, Marcus, Walter and Toby; and three grandchildren, Kira, Levi and Kai.

* * *

PROF WAS FIRST CHAIR OF ANIMAL & POULTRY SCIENCE

University professor emeritus Doug Morrison of the Department of Animal and Poultry Science died April 6 in Guelph. A 1949 graduate of OAC, he received his PhD from the University of Illinois in 1955 and was director of research for Maple Leaf Mills until 1971, when he joined U of G as first chair of the newly established Department of Animal and Poultry Science. He served as chair until 1982, then as a professor until his retirement in 1992. His teaching and research focused on the environmental physiology of domestic birds and mammals. He was named University professor emeritus in 1993.

Prof. Morrison received numerous honours and awards during his

career, including fellowship in the Agricultural Institute of Canada, the Golden Award of the Canadian Feed Industry Association, the Award of Merit from both the Ontario Poultry Council and the Canadian Society of Animal Science, the Distinguished Agriologist Award from the Ontario Institute of Agriologists and the Centennial Medal for outstanding service to the Ontario Ministry of Agriculture, Food and Rural Affairs. He also served as the first chair of the ministry's Ontario Broiler Hatching Egg and Chick Commission.

Prof. Morrison is survived by his wife, Barbara-Jean; his children, Jo-Anne, Jacqueline, Douglas and Scott; seven grandchildren; and two great-grandchildren.

An Atlas of Life in the Arctic

Zoology students head north this summer to photograph arctic plants and animals

A GROUP OF U of G zoology students will spend part of the summer on Cornwallis Island, working on the first comprehensive survey of the diversity of animal and plant life in the high Arctic.

The exercise — part of a three-year project — will allow U of G to claim the title as a leader in northern biodiversity research, says Prof. Paul Hebert, chair of the Department of Zoology.

The students will photograph plants and animals for a trilogy of products, including an extensive Web site, a DVD and a CD-ROM to add to the department's series of educational multimedia produced by CyberNatural, a group of multimedia content writers, illustrators and animators.

Hebert borrowed the idea from the National Science Foundation in the United States, which has yet to see anyone act on its proposal for establishing biodiversity observatories in the Arctic — a kind of biological analogue to mapping the heavens from telescope observatories.

"Biodiversity research has suffered from a lack of funding," says Hebert, adding that Canadians know

next to nothing about life in a region that constitutes about one-third of their country's land mass.

"We hope to send four or five students north each year to begin to build an atlas of life at this site," he says.

The students will spend a few weeks in August in Resolute on Cornwallis Island. They will stay at a facility maintained by the Polar Continental Shelf Project, the main logistics base for research in Canada's high Arctic and the site of an arctic ecology field course offered by the Department of Zoology every two years. They will also work in the Truelove Lowlands on nearby Devon Island, which boasts a variety of typical high arctic habitats.

Last summer, undergraduates Kelly Wallace, Dave Hardie, Elizabeth Junco and Monica Pasquali stayed at the same base while they worked on the first phase of the project, collecting video footage of terrestrial and aquatic plants and animals. This year's group will also gather images for use on the Web site and multimedia package.

Like the group before them, the students making the trip in August

will spend two months preparing for the venture, including studying literature on arctic life and taking a crash course in video-recording.

The information gathered by the students will be used in the multimedia package that Hebert hopes will be delivered to every primary and secondary school and university in Canada by December 2001. "We want students to be able to join virtual field trips to our Arctic."

Part of the cost of producing the multimedia project is being funded through a grant of more than \$200,000 from the Millennium Fund. That funding hinges on in-kind support from the University and matching support from private sponsors. Additional funding has been provided by the Ministry of Science, Energy and Technology, the Natural Sciences and Engineering Research Council and student ACCESS awards.

In addition to that project, Hebert says the information gathered will be useful for scientists and others interested in the biology and ecology of the region.

BY LORI BONA HUNT
AND ANDREW VOWLES

CyberNatural Unique in Canada

Continued from page 1

tion of quality education software," he says.

The winning CD-ROM educates students through the use of jigsaw puzzles, animation, slide shows and in-depth information on amphibians, reptiles and mammals found in the Great Lakes. Students learn how to identify animals using photographs and sound, and can test their knowledge through an interactive game.

The program covers evolution, reproduction and morphology and includes exercises, questions, discussions, curriculum summaries and a teacher's manual. Students also learn about the interplay of natural processes, living organisms and human impacts in the Great Lakes.

The CD-ROM also won a 1999 Award of Excellence from the Canadian Association for Media and

Technology in Education. It is part of a series produced by CyberNatural that explores aspects of Canada's freshwater and marine environments.

CyberNatural is based in the Department of Zoology and includes a multimedia team of artists, illustrators and writers who create instructional CD-ROMs and Web teaching materials on the environmental sciences.

Hebert has directed CyberNatural's expansion while maintaining his duties as chair and professor. Over the years, he has raised nearly \$1 million in external support.

"I started this as a research project, and I saw the potential and our capabilities and was determined to get some funding to hire staff," he says. "It is a unique entity, the only university-based group in Canada

developing educational software that is not strictly for university use. The centre benefits from a marvelous staff with unbelievable motivation."

All of CyberNatural's programs are designed for the public education system and are made available to schools at a reasonable cost. One upcoming project involves the creation of an extensive multimedia package on Canada's polar life that will be distributed to every primary and secondary school in Canada.

CyberNatural also maintains "Canada's Aquatic Environments," an interactive Web site that contains more than 10,000 pages of information and allows users to learn about aquatic habitats, plants and animals. It is located at www.aquatic.uoguelph.ca.

BY LORI BONA HUNT

TSS Conference to Focus on Learner-Centredness

WHAT ARE the challenges of implementing learner-centredness in different disciplines? That's the focus of this year's Teaching Support Services (TSS) conference, sponsored by the colleges of Biological Science and Physical and Engineering Science.

Slated for May 25, the conference will take a practice-based approach, identifying key learning outcomes of learner-centredness, some class-

room strategies for achieving these and examples of what has worked for others.

Keynote speakers are Jeanne Narum, director of Project Kaleidoscope in Washington D.C., a project of the prestigious National Science Foundation dedicated to reform in undergraduate science education; and Prof. Fred Evers, Sociology and Anthropology, co-author of *The Bases of Competence: Skills for Life-*

long Learning and Employability.

The conference, which runs from 8:30 a.m. to 4:30 p.m. in the OVC Learning Centre, will also feature workshops, panel sessions and presentations on the two themes of "Teaching in a Learner-Centred Curriculum" and "Creating a Learner-Centred Curriculum."

For more information, visit the TSS Web site at www.tss.uoguelph.ca.

Taking a Byte out of Food Processing

Computing, food scientists develop software to help food processors improve technique used in making frozen, dehydrated products

THERE'S MORE GOING ON at the bottom of your cup of fruit yogurt than you might realize.

In collaboration with a graduate student in the Department of Food Science, computing science professor Stefan Kremer has developed prototype software — based on a "spider algorithm" — intended to help food processors improve a technique used in making frozen and dehydrated foods.

Graduate student Cybelle Fernandez, who defended her master's thesis last month, says the software will give food scientists more precise information about microscopic changes taking place in foods undergoing osmotic dehydration. This pre-processing step shortens the time needed for subsequent dehydration or freezing, thus preserving or enhancing food quality.

Osmotic dehydration is already widely used for preparing everything from frozen vegetables to candied dried fruit and fruits used in yogurt, but Fernandez says the process is not fully understood or optimized. In particular, she wanted a fast, reliable method of calculating the volume of cells of foods being subjected to the process.

During osmotic dehydration, different foods exchange water and solids at varying rates, which affects the rate of dehydration itself. Why the differences?

"Previous studies showed that



Food science graduate student Cybelle Fernandez called on computing scientist Stefan Kremer when she wanted a more precise way of analysing optical images of apple samples. PHOTO BY MARTIN SCHWALBE

the microstructure of these materials controls water flow," she says, noting that cell membranes allow materials in and out selectively. Her study would allow her to "treat tissues in different concentrations of osmotic solutions and observe changes and movements inside the cells."

She focused on apples, which have been well-studied and whose highly porous structure affects water transport in interesting ways.

Traditional microscopy techniques either destroy cells or provide only a two-dimensional picture of them. She wanted a more precise

method that would allow her to analyse hundreds of images optically sliced from her apple samples and determine changes in the volume of individual cells.

"The image analysis software available couldn't detect the edges of cells automatically," she says, explaining how she previously had to trace each cell manually, then hand-measure cell area.

Along with her supervisor, Prof. Marc Le Maguer, she contacted the Department of Computing and Information Science (CIS).

"She sent me images of apple cells and wanted to know the volumes of the cells," says Kremer, a member of the Guelph Natural Computation Group along with fellow computing scientists and engineers at U of G.

Kremer leapt at the chance to work with real data rather than with more conventional artificial problems.

"We tend to look at things from a theoretical perspective, often due to a lack of access to interesting real-world data sets," he says, explaining that the project represented a good example of biocomputing or the growing use of computational tools and techniques for studying biological data.

Student Damiaan Habets, who took Kremer's course in vision and pattern recognition, adopted the task as a semester project, then continued working on it last summer

with the CIS professor.

They developed a way to measure cell volumes based on defining a point inside the cell, then projecting lines outward in all directions to intersect with the cell membrane. "We called it the spider algorithm because it grows legs that reach out to the cell walls," Kremer says.

The goal now is to refine the software so that the user need merely click on a cell and have the computer use that algorithm to calculate its volume.

The software is still a prototype, Fernandez says, explaining that the system allows her to view the cells in three dimensions but needs further work. "We're still not getting actual volume of cells. We still have to complete the program to get the data."

She says the system might eventually be used by other researchers in studies of food science, horticulture or plant physiology. For industry, such software might help in modelling and developing processing parameters — temperature, duration of processing, solution concentration — during dehydration, which would help in designing industrial applications for the process.

"The end goal is to help food processors get the greatest benefit that this process could provide and to improve the quality of the final product," she says.

BY ANDREW VOWLES

Deferred Maintenance Threatens Learning, Research

Report says core funding is needed to permit universities to address long-term problems using their own resources

BUILDINGS AND CLASSROOMS at Canadian universities are in such dire need of repair that learning and research are being threatened. That's the finding of a new report issued by the Canadian Association of University Business Officers (CAUBO) and Association of Universities and Colleges of Canada (AUCC).

Canadian universities face at least \$3.6 billion in accumulated deferred maintenance, with more than \$1 billion of that considered urgent, according to *Point of No Return: The Urgent Need for Infrastructure Renewal at Canadian Universities*. Released April 10, the study was based on data from 51 universities, which together account for about 87 per cent of Canada's total enrolment.

In the report, CAUBO and AUCC suggest that the federal and provincial governments demonstrate leadership by including post-secondary institutions as full funding partners in the national infrastructure program announced in February's federal budget. This would allow universities to play catch-up to meet the deferred-maintenance requirements. Ontario and Quebec were the only provinces to make universities eligible for the two previous federal/provincial Infrastructure Works Programs.

The report also says that increased core funding is necessary to permit universities to address long-term problems of accumulated deferred maintenance using their own resources.

"Although we appreciate the provincial government giving us money for new buildings, such as it has done with the SuperBuild Growth Fund, we also need money to deal with the buildings we currently have," says Nancy Sullivan, vice-president (finance and administration).

The report says that at Ontario universities alone, mounting costs for repairs are estimated at more than \$1 billion. It also notes that these amounts are probably underestimated. Even so, that means the cost to eliminate deferred maintenance is more than \$5,561 per full-time-equivalent student.

U of G's deferred maintenance is estimated to be at least \$60 million. "In Ontario, the average age of a university building is 32 years," says Garry Round, executive director of facilities and hospitality services. "Our average building age is 38 years, but that average is deceptive. Keep in mind that OAC started 125 years ago, so we have some very old buildings. Our campus has done its job of serving our community, and our physical maintenance crew has

done an excellent job of extending its lifespan, but unless we pay some attention to deferred maintenance, it will continue to be a ticking time bomb."

Sullivan says U of G administrators recognize deferred maintenance is a serious problem, but have had to focus resources on other priorities due to ever-decreasing government funding. Of late, the concentration has been on recruiting and retaining faculty and staff to maintain U of G's position as a leader in teaching and research and ensuring that library resources are maintained.

"We simply have not had the budget to deal with deferred maintenance," she says. "Currently, all we are able to address are health and safety issues and very modest renovations to deal with change in space usage and to upgrade teaching facilities."

In the 1999/2000 fiscal year, for example, Physical Resources received \$24 million worth of requests for facilities renewal projects across campus. Of those, \$6.6 million were considered "absolutely critical," says Sullivan. Only half could be funded from government facilities renewal grants and Physical Resources' own renovation budget.

In fact, the amount U of G received for facilities renewal in

1999/2000 was double the amount received in any of the previous six years. Sullivan says it remains to be seen whether Guelph will receive the same amount in this budget year or if that was a one-time increase that will be reduced in 2000/2001.

A significant portion of U of G's deferred-maintenance problem centres around the Axelrod and the Chemistry and Microbiology buildings, which together have an estimated deferred-maintenance bill of about \$22 million. The new Sciences and Advanced Learning and Training Centre, which is being funded in part by the SuperBuild Growth Fund, is intended to address much of the problem in those buildings. But Round says U of G still faces significant obstacles in other buildings, with problems ranging from inadequate teaching facilities and outdated equipment to leaky ceilings, peeling paint and larger structural concerns.

According to the report, U of G is not unique. Among the findings:

- The average university building in Canada is 32 years old, whereas the average life cycle of its components and systems is 23 years.
- Canadian universities have an accumulated deferred-maintenance level that is 60 per cent higher than at American universities. In

the past 20 years in Canada, government support for post-secondary education decreased 30 per cent, compared with a 20-per-cent increase in government support for American universities.

- Aging and deteriorating facilities have a negative impact on the ability of universities to fulfil their missions in teaching and research. Failure to address the physical plant deterioration can lead to serious circumstances. Educational activities can be disrupted and research experiments ruined. Service breakdowns can have a serious impact on emergency systems. Universities in some parts of the country have been forced to close buildings.

- Reasons for the high deferred-maintenance bill include lack of government funding, growth, demands for new space, limited budgets and the fact that the issue does not attract the same attention as new building projects.

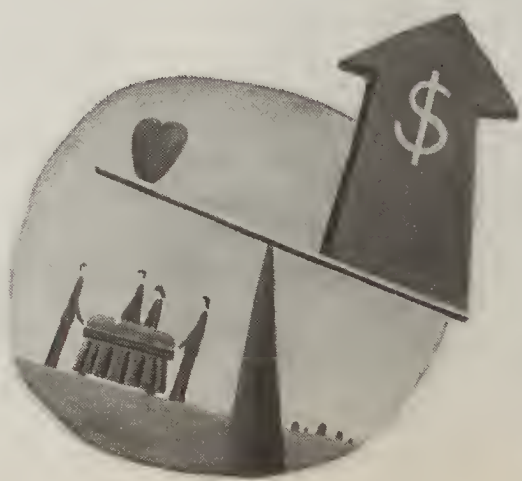
"The survey confirms our worst fears on the state of Canadian university campuses," says Duncan Watt, vice-president (finance and administration) at Carleton University and chair of the CAUBO steering committee that provided direction for the report.

BY LORI BONA HUNT

THE BUSINESS OF DYING

"The money trade on death care demonstrates there is no aspect of our embodied existence that is exempt from the enterprise of profit maximization"

By RAYMOND IZARALI



LIKE MOST THINGS TODAY, death care has been reduced from the level of a community network to a service that is measured strictly in dollar value. And with annual deaths at 81,175 in Ontario alone, as reported by Statistics Canada for 1997 and 1998, there is much dollar value to be realized. In fact, StatsCan reports that in 1997, there were 213 deaths for every 100,000 Canadians, and this figure is expected to increase to 328 per every 100,000 by the year 2020 and to 425 by 2030.

For the moment, however, let's say death is inevitable, so we shall focus more on the nature of death care as opposed to death. Since philosopher Adam Smith first published his two path-breaking principles — the specialization of labour and the pursuit of profit for self-interest — in his monumental text *The Wealth of Nations*, death care has undergone a huge transformation. On the first principle, Smith wrote: "The division of labour, by reducing every man's business to some one simple operation and by making this operation the sole employment of his life, necessarily increases very much the dexterity of the workman." On the second principle, he claimed that the pursuit of profit for self-interest necessarily benefits society, even if the individual has no consideration for what is in the interest of society.

These principles have serious moral implications for bereaved consumers and for society as a whole. In particular, the principle of specialization of labour and its subsequent industrial drive brought with it a shift in death care from the level of the family and the intimacy of community co-operation to a specialized profession, which is now called "funeral services." In this shift, specialized death care became focused more on generating profits than on providing care to the bereaved.

Prior to specialized death-care companies, there existed what were called "funeral parlours." These were used simply to provide sheltering, disinfecting and preservatory care such as embalming the deceased. They were generally operated by an undertaker. In this system of death care, the bereaved family and the community played an important role in providing needed services during the occasion of death, namely, making the coffin, digging the grave and dressing the deceased. In fact, they even arranged for public viewing of the deceased to take place at the family residence. This approach to death care is still prevalent in most pre-industrialized societies.

But since the emergence of commercially driven specialized death-care companies, these forms of community involvement have eroded. For example, community participation such as building the coffin in an effort to reduce funeral expenses or as a way of experiencing some sense of direct, meaningful participation in the occasion of death would generally be considered absurd and demoralizing today.

In the current system of specialization, death care is almost exclusively provided in "funeral homes" by employed staff. For example, the funeral home provides viewing accommodations at a daily charge, sells the casket and arranges for a paid clergy member to conduct the religious rites when needed. Some funeral homes even have a fleet of limousines to transport bereaved families to the cemetery. In effect, funeral homes have undertaken an all-encompassing role in handling the occasion of death. After all, the more they decouple the family and community from the process, the more control they maintain, which includes regulating the price of death-care products and services. It's not surprising, then, that a funeral in Canada can cost as much as \$8,000, after a 200- to 400-per-cent markup on the casket, an exorbitant service charge for the use of the funeral home's facilities and vehicles, and administration charges. What's worse, there is no alternative because these services are no longer provided anywhere else except at funeral homes.

It is in this shift in death care that we find the loss of autonomy in handling the occasion of death. The breaking away of family and community involvement has transferred to funeral

homes a monopoly in providing death care.

I don't dispute that there are benefits to specialized death care. My contention is that its evolution selects against significant forms of participation. More important, the "unethical" feature I seek to underscore is that this system is governed by a logic of maximizing profits as opposed to allowing for a more inclusive range of involvement during the occasion of death.

In specialized death care, bereaved consumers are locked in a profit-driven system where money is the dominant criterion in accessing death care. This phenomenon is exemplified by large corporate empires that have evolved from the system. We find in today's culture of commerce corporations like Service Corp. International (SCI), the Lowen Group and Arbor Capital selling death-care stocks on the public exchange. The obligation of these corporations to shareholders is to demonstrate a continued trend of profit earnings in the industry.

This obligation, in turn, requires corporations to constantly maximize their profits from the dead and bereaved consumers. Corporations also appease shareholders by "buying out" as many independent funeral establishments as they can to demonstrate their economic dominance in the industry. They even employ consultants to study the so-called "dying population," strictly for the purpose of forecasting the expected financial growth from future deaths.

Consider, for example, that in its 1994 annual report to stockholders, SCI, one of the corporate giants in the North American death-care industry, said it had "experienced the most dynamic year in its history in 1994, reaching new milestones in revenues and net incomes while establishing a solid presence in the European funeral industry." The company's revenues had exceeded \$1 billion for the first time. By 1995, SCI established its presence in Continental Europe by taking over Pompes Funèbres Generales, France's largest funeral chain, made up of 900 facilities in France and others in Switzerland, Italy, Belgium, the Czech Republic and Singapore. According to reports, SCI exceeded \$1.5 billion in revenues in 1995, and by 1996 had exceeded \$370 million in pre-arranged funeral revenue and \$251 million from pre-arranged cemetery sales and services. Shortly after its record-high revenues, SCI made a bid to take over the Lowen Group for \$3.2 billion.

One might say that the money trade on death care demonstrates there is no aspect of our embodied existence that is exempt from the enterprise of profit maximization. Profiting on the human body is not limited to its labouring in life — there is also a strong drive to exploit the body even when it's dead.

The emergence of corporate chains of retail casket stores in Canada and the United States reinforces the nature of this ex-

ploitation. Although they have been launched as alternatives to funeral-home death-care products, their operations are grounded on the same logic of maximizing profits from their investments in human death. Their entry into the death-care industry is not what Adam Smith conceived as a God-like "invisible hand" operating in such a way that it improves market conditions. On the contrary, their mandate is to establish an empire of wealth, as have the multinational conglomerates in funeral services. For example, one corporation called the Casket Store, headquartered in Fort Lauderdale, Fla., advertises its franchise sale with the following text: "The Casket Store opportunity is a highly successful marketing concept in the multi-billion-dollar funeral industry. Our goal is to expand our share of the marketplace by establishing additional retail stores throughout North America. There has never been a better time to establish a business that is recession-proof."

Funeral arrangements depend on the amount of money the bereaved consumer has to spend. But there are also strategies by funeral corporations to ensure that the consumer spends the highest amount possible. In this state, death is not seen as a time to help the bereaved family. On the contrary, death represents a financial opportunity in a boundless market economy.

We should view retail alternatives like the Casket Store as expanding market sites of what is grimly referred to as the "death industry." It might not be long before we also see a casket showroom in every Wal-Mart outlet. After all, deaths in the United States alone account for a \$25-billion annual funeral business. In Canada, even the federal government recognizes the profitability of death and has secured its share of profit by imposing GST on all funeral expenses.

Perhaps one of the reasons we as a society have not been alarmed at the pursuit of profiting on the dead has to do with our failure to view death as an occasion of value that is non-monetary in nature. Contemporary ethical debate over issues like abortion and euthanasia seem to focus primarily on dying and the dignity of life, and even many religious traditions emphasize life and life after death, but they fail to focus on value in the occasion of death. The solemnity and grieving associated with death are markers of the value realized over the loss of the deceased person. Grieving, for example, is an expression of the significance we attribute to death, whether we are conscious of it or not. When we witness millions of people across cultures and across the globe mourning the death of people such as Martin Luther King or the crew of the Challenger space shuttle, we are also witnessing a deeper sense of realization these mourners bear. This realization signifies to them that death is sacrosanct.

Whatever the relationship between the deceased and the mourner may be, arousal of the mourner's felt-side attributes a distinct form of value to the occasion of death. It is from this value that the mourner cries, experiences a sense of loss and reflects on the qualities of the deceased person. And it is from this value that I suggest death should be viewed from a broader perspective, at least beyond the monetary value that the capitalist market has restricted it to.

In essence, when death is reduced to a level of commodity, this value is subjugated, and death becomes a spectacle of profit, for its occasion is viewed as having a money value to external shareholders as opposed to a more deeply rooted value to those participating in the occasion. In this way, the non-monetary aspects of death are ruled out. The emergence of corporate retail casket stores, corporate stock trading on death-care ownership, corporate conglomerates of cemeteries, funeral homes and mausoleums, and the abundance of mail-order marketing by all of them, provides ample evidence of this process.

Raymond Izarali is a master's student in the Department of Philosophy. This article was condensed from a paper he presented at the department's annual graduate student symposium April 7.

WINING AND DINING

New HAFa professor marries professional and academic career in high-quality hospitality with deep personal appreciation of fine food and drink

By ALEXANDER WOOLEY

CLAYTON BARROWS adores red wine. Books on wine line one wall of his newly moved-into office in the School of Hotel and Food Administration (HAFa). While a graduate student at the University of Massachusetts in the mid-1980s, he worked at a local specialty wine store that had a \$6-million inventory in vintage Burgundy and Ports. So in 1989, when it was time to leave Massachusetts and take up his first faculty appointment at the University of New Orleans, Barrows's first thoughts turned to wine.

"My wife and I decided to drive down so that we could take our collection with us," says the newest addition to HAFa's faculty. "We actually removed the back seat of our car so we could fill it with wine. We probably had eight cases back there. It seemed that all we took to New Orleans were wine and some clothes."

According to Barrows, the delicate vintages proved portable but not potable. The high heat and humidity of "N'Awlins" destroyed some of his favoured old Burgundys, heavy Cabernet Sauvignons and wines from the Rhône Valley.

Rather than Guelph's putative wine-friendly climatic qualities, it was the personal contacts he built up with HAFa faculty during his 10 years at New Orleans that led to Barrows's decision to move north this winter.

"Hospitality is a relatively small academic field, with the result that we're quite a close-knit group," he says. "I've had excellent working relationships for years with John Walsh (HAFa director) and (HAFa professor) Joe Barth. When I selectively looked at places I wanted to work at, I chose Guelph because I knew the people and it seems like there's a whole lot of interesting work going on here."

Barrows is recognized throughout North America as an ex-



pert on food-service and private-club management. Since arriving at Guelph, the Connecticut native has been busy establishing contacts with club associations and managers in Canada and will soon be revising his chapter in a new edition of a U.S. text called *Contemporary Club Management*, which is regarded within the industry as a bible of sorts.

"Clayton is a valuable new member of the HAFa faculty for several reasons," says Walsh. "First, he is an established scholar. Also, he can immediately assist the school in a number of areas, including our management development programs for industry professionals and teaching our graduate and undergraduate students. We're delighted to have him here."

Barrows will teach courses in food, beverage and club management. One of his first major tasks will be to revise the core textbook *Introduction to the Hospitality Industry*, now in its seventh edition, which he is co-writing with retired HAFa profes-

sor and original author Prof. Tom Powers.

In some ways, Barrows has managed to marry a professional and academic career in high-quality hospitality with a deep personal appreciation of fine food and drink. Not surprisingly, then, much of his focus in restaurant management is aimed towards upscale facilities. "I cover all aspects of running a high-end fine-dining restaurant, including managing people, cost control, customer service and menu preparation."

Barrows does, however, include in his interests the cheap as well as the chic. "Casual dining is also a specialty of mine, in part because fine dining is in a bit of a slump — people don't want to get dressed up any more. At the same time, casual dining has improved immensely in quality over the last 10 years. A decade ago, you couldn't get a decent glass of wine at a casual restaurant. Now, the wine lists at a lot of casual restaurants are quite good."

The addition of a new B.Comm. in tourism management to HAFa's existing programs and Barrows's arrival with his restaurant and club expertise mirror the prosperity and expansion in these sectors worldwide.

"The hospitality industry is doing very well for itself," he says. "People are travelling more, eating out more, spending more. All indicators are that this positive trend will continue for the industry."

Barrows says his wife and nine-year-old son are delighted to be in Canada. Except for one small thing. "Mexican restaurants. I'm sure I'm going to miss the regular road trips we used to take to Texas, eating Mexican food non-stop. The diversity in Mexican cuisine is enormous."

And the wine? "No problems there," says Barrows. "I've already tried some of the wines from the Niagara Peninsula — they're excellent." And within easy driving distance. The back seat of the car is safe, for now.

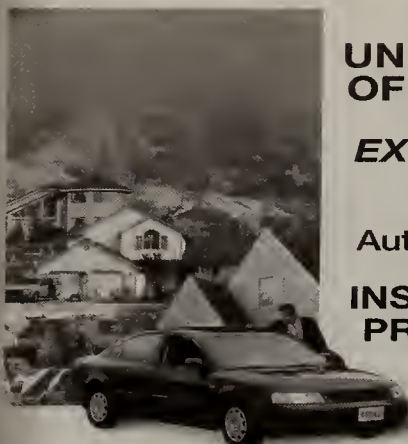
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LETTERS

FIGHT FOR REASON

The ongoing debate on campus about academic freedom is indeed thought-provoking. An Internet search led me to read the statement on academic freedom, university autonomy and social responsibility proposed by the International Association of Universities (www.unesco.org/ngo/iau/tfaf_statment.html).

The statement first proposed in 1950 was reaffirmed and its implications redefined within the framework of a new social contract at the UNESCO World Conference of Higher Education. The principles of academic freedom as outlined at the conference deserve to be applauded for the values that confer obligations both on the part of the individual and the university similar to those on the state and the society. In this context, academic freedom at universities should be viewed as "fight for reason" and not "flight from reason" based on truth revealed by controlled experimentation.

Prof. Azad Kaushik
Department of Pathobiology

NO GROUP HAS A MONOPOLY ON MERIT

I am writing in response to the letter titled "No PINs, Please!" in the April 12 issue of @Guelph. I am surprised by the following lines that appear in the letter: "... I do not accept the assurances given in the census brochure that the data will not be used

to interfere with merit-based hiring" and "Employment 'equity' implicitly aims to achieve equal distribution of employees among arbitrarily selected groups of people. The result, on average, is selection of less qualified applicants."

First of all, there is nothing arbitrary in selecting the groups. These groups have been identified based on several studies by social scientists investigating systemic discrimination in the job market. Second, employment equity does not implicitly or explicitly imply selection of less-qualified applicants. No group has a monopoly on merit, and the notion of equating employment equity to lower merit is, in my view, completely misplaced. The aim of employment equity is to achieve workplace diversity without compromising on merit, whereby the composition of the workforce is roughly representative of the diversity in the population.

Prof. Dilip Banerji
Department of Computing
and Information Science

A SURREAL DEBATE

Stephen King may have serialized his latest novel, but U of G has gone one better by taking a scientific debate and surrealizing it. Salvador Dali meets R.A. Fisher!

From the debate so far, and further to my previous letter (@Guelph, Feb. 16), I have deduced the following Seven Laws of Food Safety (with

special reference to GM foods):

1. All events in the real world occur independently of each other. Thus, when you make a change, it occurs as if all other things are equal and won't be affected, except for those things you looked at in your experiment (see Law #2). As the only concern we have is for our own individual health, the safety of (GM) foods should be assessed only for their effects on individuals, because there are, by definition, no population, social, ecosystemic or indirect effects. (If we can feed it to chickens or babies and they don't get sick, then it's safe).

2. Controlled laboratory experimentation (all other things being equal, as in the real world — see Law #1) is the only legitimate science. This is based on a variation of the drunk-who-dropped-his-key-in-the-dark-but-looked-for-it-under-the-streetlamp-where-the-light-was-better story. It's better to get precise results with the hard sciences of the laboratory, than uncertain results with the difficult sciences in the real world. (The corollary is that ecology, evolutionary biology, systems sciences, epidemiology, geography and other non-Disneyland sciences are not real science.)

3. Notwithstanding #2, information derived by special revelation — for example, visions of sugar plums and patented and proprietary methods used by industries — is science. Note: This notwithstanding clause can only be invoked by government or industry.

4. If a technology has the potential to affect millions of people and non-human species over long periods of time, the people who will make the most money in the short run should be given the benefit of the doubt, and the burden of proof of harm should fall to poor people, future generations and non-human species. This law is especially relevant in those cases where questions of safety cannot be decided by lab experiment or industrial special revelation (see Laws #2 & 3 above).

5. Uncertainty in science is best resolved by creating laws that protect those who believe most strongly that they are right or will make the most money. If we must choose, then always go with the money.

6. Bias can be corrected by increasing the sample size (GM foods are the most tested, etc.).

7. Safety of food for North Americans is the overriding goal that our society should strive for. (People can die in poor countries and we can destroy the environment for our children, but by gum, we won't get diarrhea or somebody will have to pay!) Note: A footnote to this is that safety is a testable scientific term, as in: "The world is safe for democracy."

I was going to add more laws, but seven is such a special number — being the days of Creation and the number of days in the week — so it seemed to me to have an air of completeness and finality to it. Knowing these laws — even knowing that there are seven such laws — makes

me feel a whole lot safer. I hope you feel better, too.

Prof. David Waltner-Toews
Population Medicine

THANKS TO ALL

I wish to express my profound thanks for my wonderful retirement party last month. It was absolutely overwhelming to see all of the many people who attended, including so many friends who had retired but came back for the party.

I had a fantastic time and enjoyed every second of it. Thank you very much for your gift towards a pond for our backyard. It's something we've been planning to do. We're not promising it will be in operation this year, but next year for sure. I know we will enjoy the picnic knapsack and, of course, all the gifts a retiree needs, as provided by Kath Beaven.

I was extremely fortunate to have had all those interesting years at the University, and I want to thank everyone who contributed to my success. I couldn't have done it without you. God bless.

Joan Barr, Guelph

* * *

@Guelph welcomes letters to the editors. They should be limited to 500 words and, whenever possible, submitted electronically. Send to bchance@exec.admin.uoguelph.ca.

Hi-Tech CEOs Say Value of Liberal Arts Is Growing

The following is a statement by leaders of Canadian high-technology corporations underscoring the importance of liberal arts education in the digital economy.

FUNDING OF HIGHER EDUCATION in this country needn't be an either/or proposition between technology or liberal arts and sciences, as public debate suggests.

As leaders of some of Canada's growing high-technology companies, we have first-hand knowledge of the necessity for a balanced approach.

Yes, this country needs more technology graduates, as they fuel the digital economy. But it is impossible to operate an effective corporation in our new economy by employing technology graduates alone. We have an equally strong need for those with a broader background who can work in tandem with technical specialists, helping create and manage the corporate environment.

A liberal arts and science education nurtures skills and talents increasingly valued by modern corporations. Our companies function in a state of constant flux. To prosper, we need creative thinkers at all levels of the enterprise who are comfortable dealing with decisions in the bigger context. They must be able to communicate — to reason, create, write and speak — for shared purposes: for hiring, training, managing, marketing and policy-making. In short, they pro-

vide leadership.

For example, many of our technology workers began their higher education in the humanities, and they are clearly the stronger for it. This was time well spent, not squandered. They have increased their value to our companies, our economy, our culture and themselves by acquiring the level of cultural and civic literacy that the humanities offer.

We stand with the chancellors of Ontario's universities, who recently stated that funding must "permit universities to manage enrolment demand and maintain a diverse and forward-looking curriculum."

It is critical that all universities in Canada receive sufficient funding to ensure a well-educated workforce and a new generation of leadership.

Pierre-Paul Allard
President and Managing Director
Cisco Systems Canada company

Everett Anstey, President, CEO and Chair
Sun Microsystems of Canada Inc.

Paul Bates, President and CEO
Charles Schwab Canada, company

Kevin Bennis, President and CEO
Call-Net Enterprises Inc. (Sprint Canada)

Micheline Bouchard,
Chair, President and CEO
Motorola Canada Co.

Paul Butler, Director
Artech Digital Entertainments

Stuart Butts, Chair and CEO
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Vaccine Could Give Cats Another Life

OVC researcher fights virus that attacks feline immunity

UNDERSTANDING the disease process behind a feline virus infection is no small challenge, but a new U of G faculty member is on her way to finding answers that could eventually help develop a vaccine.

Prof. Dorothee Bienzele, Pathobiology, a 1988 graduate of OVC who joined the faculty of Guelph in September from a position at the University of Georgia, is setting up a new laboratory to study the disease mechanisms involved with feline immunodeficiency virus (FIV), which causes serious and eventually fatal diseases in infected cats. This virus and its effects on the feline immune system have proved to be highly complicated and challenging to understand, and no effective vaccine against FIV has yet been developed.

For that reason, Bienzele is specifically interested in learning more about which cells are targeted by the virus early in disease, how the virus affects normal feline cell function and what influences the disease's course.

"The development of an FIV vaccine is a long way off because we know so little about the virus," she says. "That's why it's important that we learn how the disease naturally progresses and how a cat's immune system responds to infection."

FIV belongs to a group of viruses called retroviruses and can be transmitted between cats through saliva in bite wounds and sexual contact, and to kittens via milk. Viral infection is more commonly seen in intact, free-roaming male cats, which are more likely to come in contact or to fight with others.

Like the human immunodeficiency that causes AIDS, FIV infection results in the destruction of immune cells, leaving a cat defenceless against secondary infections. But it's unclear how FIV infects and damages immune cells and why some cats are affected differently than others.

Once infected, a cat will initially and recurrently show mild signs of disease such as fever and swollen lymph nodes. But for the most part, many cats remain without obvious clinical signs for many years. Eventually, afflicted cats will succumb to one or an array of FIV's different disease forms. These diseases can include chronic bacterial, protozoal and fungal infections, chronic respiratory disease, urinary-tract infections or



Prof. Dorothee Bienzele hopes to eventually find a vaccine for a deadly feline virus.
PHOTO BY CARLENE VAN BRABANT

chronic weight loss. For her research, Bienzele will be taking blood samples from a random selection of uninfected feral cats and will infect cultures of lymphocytes (a type of white blood cell) with FIV in the laboratory. She will then study how the virus interacts with these cells early in infection.

Bienzele says the information she gathers about FIV infection will be useful in the understanding of all retroviral infections.

"Retroviruses cause many important diseases in animals and humans," she says. "FIV infection

is a fertile field for comparative study, and understanding this specific virus may help lead to answers about how other retroviruses cause disease in mammals."

Bienzele also plans to use her new lab for the study of the feline leukemia virus (FeLV), another serious feline infection also caused by a retrovirus. Her FIV research is sponsored by OVC's Pet Trust and the Natural Sciences and Engineering Research Council.

BY JENNY TYE
OFFICE OF RESEARCH

APPOINTMENTS

Marcia Bakovics of the University of Alberta will join the Department of Human Biology and Nutritional Sciences as assistant professor Sept. 1.

Nicholas Bernier of the University of Alberta will join the Department of Zoology as assistant professor Jan. 1, 2001.

Carol Lyn Murrant of the University of Rochester has been appointed assistant professor in the Department of Human Biology and Nutritional Sciences, effective Sept. 1.

* * *

In the appointments listing in the April 12 issue of @Guelph, it was reported that Leonie Marks of Missouri will join the Department of Agricultural Economics and Business in July. Due to personal circumstances, Marks will not, in fact, be joining the University.

@Guelph Schedule

Publication Date	Copy Deadline
May 10	May 1
May 24	May 15
June 7	May 29
June 21	June 12

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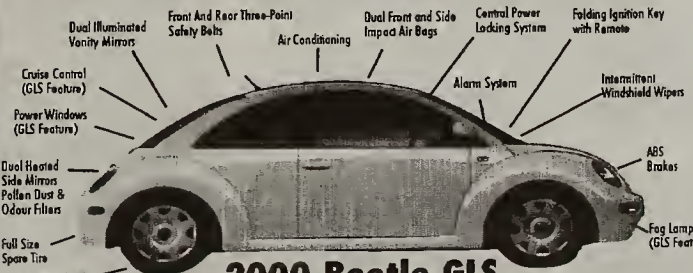


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SENATE REPORT

Continued from page 2

(SBAG) in the 2000/2001 budget process.

SBAG member Hari Subramaniam, co-chair of Student Senate Caucus, noted SBAG's frustration with the government's late funding announcement and targeted funding envelopes. He said SBAG accepted with regret the recommendation to increase tuition four per cent, but is pleased with the University's planned investments in quality and accessibility and with EMC's decision on differentiation.

Subramaniam noted that tuition is not the only rising cost students face; they must also deal with increases in residence, food and parking costs. SBAG encourages the University to increase even further its lobbying efforts with the government, he said. (SBAG's report can be viewed on the Web at www.uoguelph.ca/atguelph/00-03-29/articles/nancy.html.)

Student senator Frank Le said that although he lauds U of G's sizable investments in student aid (more than \$11 million in 2000/2001), he is concerned about students from lower socioeconomic backgrounds who do not qualify for merit-based awards, especially given the findings in the accessibility report recently released by U of G.

In response, Summerlee noted that Guelph implemented 45 accessibility awards this year; they are presented on the basis of highest level of financial need and provide \$4,000 in the first year and \$1,000 a year thereafter. He said the University hopes to increase the number of awards to 100 in the next two or three years. This is still not enough, he added, but it is a significant step in the right direction.

Prof. Mike Matthews, chair of the Department of Psychology, expressed concern that there was little in the budget targeted at hiring new faculty. The University is losing good candidates because it cannot provide the level of support being provided by other universities across North America, he said. Rozanski agreed that this is a vital issue and said that is why Ontario universities are pushing the prov-

ince for bridge funding for new hires. He noted that the start-up funds for new faculty were a small start in assisting with recruitment.

SCIR COMPLETES FIRST IN SERIES OF INTERNAL REVIEWS

Van Der Kraak reported that the first in a campus-wide series of internal reviews being conducted by the Standing Committee on Internal Reviews (SCIR) has been completed in the Department of History. The department has been assessed as being strong overall in undergraduate, graduate and research programs, being competitive in quality with its peers, and contributing substantially to the University's mission and strategic directions.

The province announced in 1993 that universities must undertake reviews of all undergraduate programs at least once every 10 years. SCIR, which reports to SCUP, was established by Senate to carry out that directive.

CONVOCATION STAYS ON JOHNSTON GREEN

From the Executive Committee, Senate received for information a report that spring convocation will remain on Johnston Green for this year and will not be moved indoors to the gold arena, if conditions permit. In March, the committee reported to Senate that spring convocation would move indoors this year because of the many complaints in recent years about the hot conditions on Johnston Green. Student senators criticized the decision and made a number of alternative suggestions, which were considered at a subsequent meeting of the Executive Committee and Convocation Committee.

The arena will remain as an alternative location to be used in case of inclement or hot weather, and it's expected that in future, convocation will be held in the soon-to-be-constructed covered sports field.

In response to another student suggestion, the membership of the Convocation Committee will be expanded to include two student representatives.

Cross-Campus Ties a Priority

Continued from page 1

sought by researchers and policy-makers from as far afield as China and New Zealand.

He contributed to two special commissions of the International Geographical Union and is an adjunct professor at the University of Waikato in New Zealand. He has also served as a consultant to several federal and provincial agencies brainstorming new methods of health-care service delivery to seniors.

Joseph has degrees from Liverpool and Queen's universities and earned his PhD from McMaster University. He has been at Guelph for more than 20 years and chair of the Department of Geography since 1992. As chair, he sought to reinvigorate the department and build cross-disciplinary ties across campus and beyond.

"He has been a first-rate departmental chair," says Campbell. "He has shown courage and creativity in responding to successive financial challenges. His leadership has resulted in a strong and collegial department of geography."

In CSAHS's relatively short history to date, collaboration has been a central focus of the college's activities. As the incoming dean is the first to attest, credit for that approach goes to the founding dean. "Michael Nightingale has done a tremendous job of bringing the two colleges together, of creating research and teaching synergies, of bringing together student organizations, and now, more recently, doing the same with our alumni," says Joseph. "He's been very successful in building a CSAHS tradition in a short period of time."

The new dean notes that collaboration began early on in his own academic career, when he decided

to combine history and geography for his undergraduate degree. Nightingale also recalls Joseph's involvement with U of G's former Gerontology Research Centre, with its cross-departmental collaborations. "The work of the centre was extremely interdisciplinary and had the added aim of serving society," says Nightingale. "Collaboration and service to society are both key missions of CSAHS."

As the new dean, Joseph plans to continue enhancing cross-disciplinary ties on campus, including the partnership with the College of Arts in managing the BA program and collaboration with OAC in the B.Comm. program.

Building on Nightingale's efforts to date, Joseph has identified several critical areas vital to the future prosperity of the college.

"Having the people, programs and facilities in place to meet increased enrolment is a high priority," he says. "It's something we're already trying to come to grips with because CSAHS has experienced a 15-per-cent increase in enrolment over the last two years. We must have the resources to meet the projected increase in enrolment as a result of the expanded cohort. To do that, it is critical that we renew our human and physical capital. By that I mean recruiting faculty in a highly competitive marketplace for academic talent and improving our infrastructure. In some regards, this calls for a mindset change. We've become so accustomed to contraction, and now we have to become accustomed to a culture of growth."

"We also need to consolidate our alumni support, both deepen and broaden that support, building on existing traditions — we're essentially a 97-year-old college — and

foster the new tradition of CSAHS. We need to continue to improve our dialogue with alumni, explain what we're doing and why we're doing it."

In addition to kudos from colleagues, news of Joseph's appointment has brought in words of congratulations from some former students. Peter Bantock was Joseph's first graduate student after the latter arrived at U of G in 1978. The two have remained in touch ever since. "He went from being my thesis supervisor to a good friend," says Bantock, who is with the Ministry of Health seeing health-care policy directions put into practice. "The work I did with Alun set me on course for my working career, which has been directed towards health-care planning in rural areas. I can say my career followed on directly from what I studied at Guelph with Alun. I think his great strength is that he has a very broad scope, a wide perspective, which I think is a good qualification for the position of dean."

Laura Beattie, a liaison officer in Admission Services who was U of G's Winegard Medallist in 1996, recalls a field course to England and Wales she participated in as a third-year undergraduate, led by Joseph and Prof. Bill Nickling.

"Alun and Bill co-ordinated the trip and were fantastic leaders," she says. "Alun was also incredibly supportive of both my academic career and my responsibilities on Senate (Beattie served as chair of Senate Student Caucus). He was an enormous source of encouragement in my application to graduate school and offered wonderful guidance as I moved on from my undergraduate career. I'm very excited that he has been named dean of CSAHS."

BY ALEXANDER WOOLEY

International Field Grants Awarded

Eight U of G students have received international field grants to conduct studies abroad this year.

Travelling to Nepal are OVC students Jennifer Bando, who will focus on rabies control and wildlife conservation; Cberie Glick, who will study international veterinary medicine; and Angela Pinsonneault, who will participate in the Nepal 2000 International Development Project.

Headed for Zimbabwe are engineering student Laura Thomas,

who will study the application of integrated solid-waste management; and microbiology student Stephen Moore, who will work on volunteer work placement.

OVC students Dorothee Kolster and Brigitte Rudolf will participate in the Global Vets program this summer in Thailand.

Sandra Gonzalez, a graduate student in rural planning and development, will focus on poverty and street children in Mexico.

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FOR RENT

Furnished one-bedroom apartments on campus, must be affiliated with the University, available May 1, \$681, \$718 and \$722 a month inclusive, Ext. 6884.

Unfurnished basement apartment in new condo in south end, private three-piece bath, shared kitchen and entrance, laundry, on bus route, close to campus, non-smokers, no pets, suitable for working professional or mature student, available July 1, \$500 a month inclusive, 836-5907.

Furnished basement bedroom, kitchen and bath shared with one other person, laundry, on bus route, close to campus, non-smoker, no pets, mature student only, \$350 a month inclusive, Helen, 822-1354 evenings.

One-bedroom lower-level apartment in adult home, separate entrance, air, laundry, parking, private patio, non-smoker, no pets, professional adult preferred, available May 1, \$625 a month plus portion of hydro, first and last months' rent required, 823-0331 after 5 p.m.

Large room to sublet from May 1 to Aug. 31, downtown Guelph, non-smoker, no pets, female preferred, \$350 a month inclusive, Eric, 836-3194.

Two-bedroom water-view cottage, four miles north of Sauble Beach, large living room, eat-in kitchen,

TV, VCR, propane barbecue, non-smokers, no pets, adults only, suitable for four, \$450 a week, 763-1236.

WANTED

Part-time child care for 10-year-old boy, Monday to Friday from 4 to 6 p.m., with occasional additional evening hours, home in south end convenient to University, references required, Ext. 3863 or 823-9328 evenings.

Bachelor or one-bedroom apartment within walking distance of campus for grad student with small well-trained dog, needed Aug. 1, Cindy or Jon, 780-488-7280 or send e-mail to lilybah@telusplanet.net.

Two-bedroom downtown apartment for single professional, starting July 1, need place with lots of light and place to keep bicycles, references available, 829-2459.

Unfurnished bachelor apartment for non-smoking female, close to campus, parking, Aug. 1, send e-mail to rellic@bmts.com.

Room for fall semester, Brenda, 519-269-3527 or send e-mail to bno@uoguelph.ca.

One- or two-bedroom partly furnished apartment to sublet for May to August, for two clean, mature students, parking and laundry needed, up to \$600 a month for two-bedroom, send e-mail to D4KN@unb.ca.

Used pressed-powder cases with mirrors for crafts, Ext. 2965 or send e-mail to pslawich@tss.uoguelph.ca.

One-bedroom or bachelor apartment for quiet fourth-year female student, within 20-minute walk of campus, laundry, non-smoker, no pets, parking required, September to April 2001, Emily, 836-9182.

Inexpensive bachelor apartment or self-contained room in quiet home for mature female student, references, house/sitting/gardening experience, Betsy, 519-433-9724 or send e-mail to bblolker@hotmail.com.

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ART CENTRE

A poetry reading, talk and exhibition on the poetics and politics of migration, family and identity will be held May 5 from 3 to 5 p.m. at the Macdonald Stewart Art Centre. The event features a lecture and reading by Cherry Clayton and visual work by Kate Climenhage and David Wilhelm.

CONCERT

First-year music and history student Sarah Kramer will give a vocal recital May 7 at 2 p.m. at Chalmers United Church. She will be accompanied by Mary Louise Vosburgh. Tickets are \$10 for adults and \$5 for students, with proceeds going to support Kramer's participation in Canada's National Youth Choir 2000, which will tour Western Canada in July. A reception will follow the concert.

NOTICES

From May 1 to Aug. 15, the McLaughlin Library will be open from 8:30 a.m. to 10 p.m. Monday to Friday and from noon to 10 p.m. on weekends and holidays. The Veterinary Science Library will be closed from May 1 to July 30 during construction of the OVC Learning Commons. Books and periodicals normally found in the Veterinary Science Library will be relocated to the third floor of McLaughlin. Reserve materials will be relocated to McLaughlin's reserve collection.

The Canadian Agri-Food Research Council (CARC) has announced a matching funding opportunity under the Climate Change Funding Initiative in Agriculture. A key objective of the program is to facilitate the development of expertise in Canada and to address Canada's priorities in meeting greenhouse gas reductions. The program has four components: developing Canadian human resources, science networks

for climate change in agriculture, industry matching for climate change in agriculture, and workshop on climate change and communication. The deadline for letters of intent is May 5. For more information, call Frances Rodenburg of CARC at 613-234-5941, fax to 613-234-2330 or send e-mail to frodenburg@carc-crac.ca.

The Guelph-Waterloo Centre for Graduate Work in Chemistry and Biochemistry will hold its annual meeting, seminar, poster session and awards presentation April 28 at the University of Waterloo. The meeting for (GWC) members begins at 1 p.m. in Room 1302 of the Davis Centre, to be followed at 3 p.m. by a public seminar featuring Prof. Nigel Bunce, Chemistry and Biochemistry, discussing "Dances With Dioxins."

The International Development Research Centre funds Canada/Latin America and the Caribbean research exchange grants to strengthen international partnerships and consolidate emerging networks among academic researchers from Canada and Latin America. Application deadline is May 31. For guidelines, visit the Centre for International Programs InfoCentre on Level 2 of Day Hall.

Alumni-in-Action will hold its annual general meeting and spring luncheon May 10 at 11:30 a.m. at the Arboretum Centre. Guest speaker is musician James Gordon. For tickets, call Carla Bradshaw at Ext. 6657.

SEMINARS

"Bacterial Chemotaxis and Chemoreceptors" is the topic of graduate student Rebecca Crane April 28 in the Department of Microbiology graduate seminar series. The seminar begins at noon in Food Science 128.

The Department of Economics visiting speaker series concludes with

Shulamit Kahn of the University of Boston considering "The Impact of the Clean Air Act Amendments of 1990 on Electric Power Plants: Evidence From the Profit Response" April 28 at 3:30 p.m. in MacKinnon 238.

The Department of Chemistry and Biochemistry presents Eric Brown of McMaster University discussing "Teichoic Acid: An Essential Polymer in the Cell Walls of Gram-Positive Bacteria" May 4 at noon in MacNaughton 222.

The Department of Plant Agriculture presents Bob McLean of Southwest Texas State University considering "BioFilms: Their Importance on Earth and Potential for Space Exploration" May 5 at 10 a.m. in Animal Science and Nutrition 306. The seminar is co-sponsored by CRESTech and the Canada Foundation for Innovation. RSVP to Ext. 2909.

THESIS DEFENCES

The final examination M.Sc. candidate Kara Vlasman, Zoology, is April 27 at 9 a.m. in Axelrod 265A. The thesis is "Habitat Use by Red Squirrels: Response to Food Availability, Intruder Pressure and Seasonality." The adviser is Prof. John Fryxell.

The final examination of Rahim Rahim, an M.Sc. candidate in the Department of Microbiology, is April 28 at 9 a.m. in Animal Science and Nutrition 141. The thesis is "Biosynthesis of L-Rhamnose and Its Incorporation Into the Lipopolysaccharides and Rhamnolipids of *Pseudomonas aeruginosa*." The adviser is Prof. Joseph Lam.

The final examination of PhD candidate Ahmed Idriss, a PhD candidate in the School of Engineering, is April 28 at 9 a.m. in MacKinnon 521. The thesis is "Effect of Hydrogen Sulphide Emissions on Concrete in

Livestock Buildings." The advisers are Profs. Jan Jofriet and Satish Negi.

The final examination of PhD candidate Dan Rusu, Mathematics and Statistics, is April 28 at 1 p.m. in MacNaughton 222. The thesis is "Pattern Formation in Annular Convection: An Equivariant Bifurcation Analysis." The adviser is Prof. Bill Langford.

The final examination of Ian Walker, a PhD candidate in the Department of Geography, is May 1 at 1 p.m. in Hutt 234. The thesis is "Secondary Airflow and Sediment Transport in the Lee of Transverse Dunes." The adviser is Prof. Bill Nickling.

The final examination of M.Sc. candidate Fouroozan Mohammadi, Chemistry and Biochemistry, is May 1 at 2 p.m. in MacNaughton 222. The thesis is "The Incorporation of Tryptophan Analogues Into the Enzyme Domain of *Pseudomonas aeruginosa* Exotoxin A." The adviser is Prof. Rodney Merrill.

The final examination of M.Sc. candidate Yanli Wu, Food Science, is May 2 at 9 a.m. in Food Science 128. The thesis is "The Detection of Food-Borne Pathogens Using Bacteriophage-Based AK Assay." The adviser is Prof. Mansel Griffiths.

The final examination of M.Sc. candidate Seanna McTaggart, Department of Zoology, is May 8 at 9 a.m. in Axelrod 265A. The thesis is "Good Genes or Sexy Sons? Testing the Benefits of Female Mate Choice in the Painted Turtle, *Chrysemys picta*." The adviser is Prof. Ronald Brooks.

COMMUNITY EVENTS

The YMCA-YWCA presents its fifth annual Women of Distinction Awards May 18 at the River Run Centre. A reception begins at 6 p.m., followed by the awards presentation at 7:30 p.m. Tickets are \$46 and are

available from the River Run box office at 763-3000.

Guelph Arts Council is calling for nominations for its annual Heritage Awards. The awards are open to individual homeowners, organizations, companies and institutions that have developed, restored or preserved heritage properties in Guelph. Nomination deadline is May 15. For information and nomination forms, call the Guelph Arts Council office at 836-3280.

The Elora Festival Singers and Orchestra, conducted by Noel Edison, celebrate spring with Handel's *Dixit Dominus* and *Dettingen Te Deum* and Vivaldi's *Gloria* May 6 at 8 p.m. at the River Run Centre. For tickets, call 763-3000 or 846-0331.

The Trillium Children's School will host an open house April 29 from 11 a.m. to 2 p.m. On May 13, the school presents a spring fair from 11 a.m. to 3 p.m. The family festival will include maypole dancing, seasonal activities and crafts for children, a barbecue and live music. The school is located in Westwood United Church, 577 Willow Rd. W. For more information, call 821-5140.

The Suzuki String School of Guelph ends its 1999/2000 concert season with three performances. On April 29 from 2 to 4 p.m., the school's youngest students perform at the Stone Road Mall in front of Sears. On April 30, the school's senior ensemble, Concorde, performs at 2 p.m. at Westwood United Church. On May 7, the school holds its annual spring concert at 3 p.m. at the River Run Centre. Admission to all concerts is free.

The Royal City Quilters Guild presents "2000 A Gathering of Quilts" May 6 and 7 from 10 a.m. to 5 p.m. at the Royal Canadian Legion. Admission is \$4.

Researchers Bring Low-Tech Berries to Fruition

Traditional breeding still the norm for many plant varieties

GENETIC ENGINEERING is heralded as a new phenomenon, but traditional plant-breeding methods using unsung "low-tech" approaches to mix genes have been successfully producing new and more desirable varieties of many crop plants for years. Crop breeders using these low-tech methods show a side of research seldom questioned and often applauded.

Strawberries are a good example. Over the past five years, Prof. Alan Sullivan, Plant Agriculture, and PhD student Bob Bors have modified traditional breeding methods to cross North American commercial strawberry cultivars with exotic wild ones. Their research successfully produced

new strawberry species with an unprecedented genetic mix, offering unique flavours, stronger disease and pest resistance and more targeted and longer growing seasons.

"Traditional breeding practices have many applications," says Sullivan. "Some might be called low-tech biotechnology. They've always been well-received by consumers and are considered quite natural and acceptable by the public."

Through traditional breeding, he and Bors have found a way to transfer blocks of genes with desirable traits between different species of strawberries. Transferred genes come from strawberries only. In "high-tech" biotechnology, genes can be more specifically targeted and

moved among plants, animals and bacteria.

Sullivan says both methods have the same goal — to increase plant variability and improve plant characteristics such as yield and disease resistance. Increasing genetic variability is important to successful plant breeding.

In strawberries, local and wild species aren't genetically compatible because wild species have fewer chromosomes than local ones do. As a result, crosses between them have often produced infertile offspring or none at all. But not anymore. Using synthetic octoploid production, Sullivan and Bors can increase the number of chromosomes of wild species so they can be successfully

crossed with local cultivars.

These genetically compatible wild species, called synthetic octoploids (8O), enable breeders to generate a greater number of different types of strawberries.

Sullivan is sharing this technology with fellow berry breeders in Maryland and Quebec. Agreements signed last year allow 8Os to be exchanged by the partners for breeding purposes. By doing so, breeders have a wider selection of different traits that can be incorporated into their local cultivars.

Broadening the genetic population of strawberries can also help make them less susceptible to disease or pests and better suited to specific growing conditions, says Sullivan.

He hopes to expand this cooperative network of breeders.

"With a larger number of people in this network, we can get many new traits integrated into a wider area more quickly," he says.

Sullivan and his colleagues have produced the first generation of plants from crosses between local cultivars and 8Os. They will be field tested this spring.

This research is sponsored by the Natural Sciences and Engineering Research Council, Ontario Ministry of Agriculture, Food and Rural Affairs, Ontario Berry Growers' Association and North American Strawberry Growers' Association.

BY CORIE LOK
OFFICE OF RESEARCH

THIS ISSUE

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- 5 PROFESSOR** talks and listens to the animals.
- 6 OUTREACH** provides great opportunities for universities.
- 7 ECONOMICS** grad keeps Martha Stewart on her toes.
- 7 CENTRE** to evaluate program for babies, new moms.

Province Boosts Research, Student Support

U of G welcomes research initiatives in May budget

LAST WEEK'S provincial budget contained significant new funding for university research and student assistance.

New research initiatives announced included an expansion of the Ontario Research and Development Challenge Fund (ORDCF) and the SuperBuild Growth Fund, a tripling in funding for the Ontario Innovation Trust (OIT), doubling of the Premier's Research Excellence Awards, and creation of a Research Performance Fund to offset overhead costs associated with Ontario-financed research projects.

"The University of Guelph welcomes the research initiatives announced in this budget," says president Mordechai Rozanski. "They reflect the collaboration between Ontario's university presidents and the government to identify infrastructure and research priorities that need to be addressed in the coming years. We now look forward to increased operating support to ensure that we can meet the promised accessibility and quality we need to maintain a first-class university system. I am hopeful that this budget is a step in that direction, part of the planning to deal with the

Continued on page 4



Prof. Michael Moss, associate dean of the Faculty of Environmental Sciences, poses outside the faculty's home, Blackwood Hall.
 PHOTO BY DEAN PALMER/THE SCENARIO

Faculty of Environmental Sciences Consolidates U of G Teaching, Research Strengths

University has long history of pulling together campus expertise on the environment

DON'T GO CALLING Prof. Michael Moss a tree-hugger. For the associate dean of Guelph's Faculty of Environmental Sciences (FES), the "science" is just as important as the "environmental."

That goes as well for most of the roughly 500 undergraduates currently enrolled in the faculty and for prospective students eyeing the eight degree majors offered under the B.Sc. (Environmental Sciences) program, says Moss. "They're more people who want to do something about environmental issues than strap themselves to trees. They see this as a serious career path rather than something that supports activism."

He says FES enjoys higher enrolment than any other Canadian university with an environmental sciences program. About 120 to 130 students enter the program each year. "This is the place to be for environmental sciences now," he says. "To solve environmental problems,

you need a science background."

U of G created the unit in 1992 to consolidate teaching and research strengths from around campus and to make it easier for students to identify and pursue environmental programs. "Seventy to 80 per cent of research on campus is environmentally directed," says Moss, a landscape ecologist in the Department of Geography who has headed up the faculty since its inception.

Prof. Stew Hills, director of the Centre for Land and Water Stewardship in the Department of Land Resource Science, says there's been a long history of attempts to pull together expertise on campus that deals with aspects of the environment. His unit provides information to rural landowners on sustainable land use practices, partly through its Conservation Information Cooperative, which lists conservation and stewardship information sources for a variety of users.

In 1989, Hills chaired the com-

mittee that led to the creation of FES, intended to offer a distinct interdisciplinary degree program. "There is still no other degree in Canada as comprehensive as this," he says, contrasting FES with environmental sciences or environmental studies initiatives tacked as an "add-on" to existing programs at other universities.

After a common first year, students pursue one of eight majors — earth and atmospheric science, ecology, environmental economics and policy, environmental monitoring and analysis, environmental protection, environmetrics, environmental geography or natural resources management.

In a new twist introduced this year, second-year students in all eight majors may also opt for a co-op stream (before last fall, co-op placements were available in only three majors). Thirty-eight students signed up last year and will begin their first

Continued on page 12

Guelph Awarded 38 Chairs

Program will support strategic mission of research-intensiveness

THE FEDERAL government's Canada Research Chairs Program has allocated 38 chairs to U of G. Guelph will receive more than \$35 million to fund the chairs, 10 of which will be established in 2000/2001.

"We are grateful to the federal government for establishing this program and pleased with our success in the recent announcement," says Prof. Larry Milligan, vice-president (research). "We fully expect the chairs program to support our strategic mission of research-intensiveness. It will help us retain faculty as well as recruit new faculty, critical over the next five years as we experience a bulge in faculty retirements. It will also help us as we enter our capital campaign, providing new opportunities to showcase our faculty talent and core research strengths and capabilities and, therefore, to solicit additional support."

The Canada Research Chairs Program — in the past also called the 21st Century or Millennium Chairs — is designed to enable Canadian universities to become world-class centres of research excellence, by providing new resources to retain and recruit world-class faculty. Under the program, announced in last year's federal budget, \$900 million will be committed to support the establishment of 2,000 new research chairs in Canadian universities by 2005.

At U of G, a Canada Chairs Committee created by VPAC shortly after the federal budget announcement, has been awaiting program details and guidelines for some months. This committee will establish the policy for allocating the chairs at Guelph and will share it with the community. Approaches will be examined that provide as much equitable distribution of the chairs as possible while serving the program's goals. Chaired by Prof. Alastair Summerlee, associate vice-president (academic), the committee consists of Prof. Ross Hallett, assistant vice-president (research infrastructure programs);

Continued on page 10

CALL FOR NOMINATIONS

ASSOCIATE VP (ACADEMIC)

Applications and written nominations are invited for the position of associate vice-president (academic) (AVPA), which the University wishes to fill by Aug. 1, 2000, or earlier. The search is restricted to members of the faculty at the University of Guelph. Reporting to the provost and vice-president (academic), the AVPA shares major responsibility with the associate vice-president (student affairs) (AVPSA) for providing an integrated and balanced approach to the institution's educational activities. The office is specifically responsible for the administration of all undergraduate programs. Other areas of responsibility include enrolment management, advising and counselling (with the AVPSA), collaboration with community colleges, and liaison on issues related to undergraduate programs with the Council of Ontario Universities and the Ministry of Training, Colleges and Universities. The registrar, the directors of Teaching Support Services and the Office of Open Learning, and the manager of Co-operative Education Services report to the AVPA. The Office of First-Year Studies reports to the AVPA and the AVPSA.

Applicants should have a broad appreciation of and commitment to the academic enterprise. They should have a proven record of leadership and achievement in an academic administrative position and have a strong record of scholarly activity. They should have particular skills in communication, and preference will be given to an individual with experience in enrolment management and the admissions process. Applications should include a letter of interest stating the candidate's philosophy or view of the role of the office, his or her approach to academic management, a current curriculum vitae and the names of at least three referees. Nominations and applications should be submitted by May 24, 2000, to Prof. Iain Campbell, chair of the search committee. The appointment will commence soon thereafter and is for a five-year term, renewable as per faculty policies for an additional five years.

The University of Guelph is committed to an employment equity program that includes special measures to achieve diversity among its faculty and staff. We therefore particularly encourage applications from quality aboriginal Canadians, persons with disabilities, members of visible minorities and women.

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BOARD OF GOVERNORS

More Resources Needed to Maintain Commitment to High Quality

PRESIDENT MORDECHAI ROZANSKI prefaced the deliberations on U of G's 2000/2001 budget at the April 25 meeting of Board of Governors by reviewing for governors elements of the University's overarching goal — to strive to make Guelph a world-class institution in its chosen areas of focus. He noted that U of G's ability to attain and sustain high quality is a function of resources. Because Guelph must remain highly dependent on provincial operating grants, it must

continue to make increased government funding a priority, he said, even though good progress in terms of entrepreneurial and philanthropic revenue sources has been made and will be aided by the campaign. Rozanski said the March 14 provincial announcement about 2000/2001 operating grants for universities was disappointing and came despite the considerable lobbying that he, his administrative colleagues, board members, faculty, staff and students have done.

Nevertheless, universities have no choice but to continue to press their case for increased government funding, said Rozanski. Lobbying of the provincial and federal governments continues with respect to concerns about base operating support to hire additional faculty and staff, to increase student assistance programs and to address deferred maintenance, he said. In particular, universities and the Council of Ontario Universities have been lobbying aggressively for the province to increase its support for post-secondary education in its May budget, he said. (For coverage of the May 2 budget and its implications for education, see page 1.)

2000/2001 BUDGET APPROVED

U of G's 2000/2001 preliminary Ministry of Training, Colleges and Universities operating budget was approved by the board. The decision followed presentations on the

current budget situation, the recommendations of the Enrolment Management Committee, recommendations from the Student Budget Advisory Group and comments from the Senate Committee on University Planning. (For full details of the budget, see the April 12 issue of @Guelph or visit the Web site www.fin.uoguelph.ca/Services/BudDocs/2000/PreBud.htm.)

Student board member Julie Cugali spoke against the budget, saying it doesn't adequately protect quality and accessibility. The University needs to take more innovative approaches to solving its ongoing budget deficit and send a strong message to government about the need for increased funding for post-secondary education, she said. Cugali urged the board to set a precedent in Ontario by maintaining U of G's tuition at current levels. She also noted a need to boost resources for student services.

Frank Le of the Central Student

Association expressed concern about the impact of the budget on the services provided by the Counselling and Student Resource Centre (CSRC). Brenda Whiteside, associate vice-president (student affairs), noted that the 2000/2001 budget increases base operating funding for the student services directorate by \$175,000. Student Affairs is currently involved in strategic planning to examine ways to serve students more efficiently and eliminate duplication of services, she said. This review includes services provided through CSRC.

CAMPUS ANCILLARY BUDGETS APPROVED

B of G approved the 2000/2001 budgets for U of G's ancillaries — the University Centre, Parking Administration, Student Housing Services and Hospitality Services — and the special capital account. Re-

Continued on page 10

New Parking Rates Approved

Fines for parking in fire route, disabled space to double

BOARD OF GOVERNORS has approved changes in parking rates effective May 1, 2000. The cost of the annual commuting permit will rise \$10 to \$208 (plus taxes), with most commuting students paying \$6.64 more because they are here for only two semesters. Resident students will pay \$81.66 for two semesters, an increase of \$3.92. The new rates will enable Parking Services to provide additional surveillance systems, lights and emergency phones to enhance personal safety and monitoring of parking lot activity, as well as continued maintenance of parking lots and roads, says Nancy Sullivan, vice-president (finance and administration). Parking will also contribute \$100,000 to the University's operating budget in 2000/2001.

She notes that the Parking Advisory Committee was advised last year, as was B of G, that the minimum increase in rates for 2000/2001

would be five per cent. This is the increase contained in the budget approved by the board.

Even with the increase, U of G's 2000/2001 commuting rate is considerably lower than rates charged at comparable Ontario universities, says Sullivan. The University of Waterloo's 1999 rate, for example, is \$240, and McMaster charges \$345.

In addition, U of G's metered and attendant pay-as-you-park rates will increase from the current \$1 an hour to \$2 an hour. The \$1 rate has been in effect since 1990/91, which was prior to the introduction of GST and PST on parking.

Fines, intended to deter major parking violations, will increase significantly for 2000/2001, says Sullivan. Fines for having an illegal (counterfeit) permit will increase from \$100 and to \$300 for a first offence, \$500 for a second offence, plus towaway. The fines for parking in a fire route or disabled

space will both double from \$50 to \$100, plus towaway. Sullivan notes that violations in the latter two categories jeopardize the safety of members of the University community and severely inconvenience individuals with physical disabilities.

The fine for parking without a valid permit will rise from \$30 to \$50. "Parking Services is repeatedly asked by permit holders to ensure that regulations are enforced, and this increase is designed to ensure that parking is available for those who have paid for it," she says.

For all other parking and traffic violations, the fine will be \$25, discounted to \$20 if paid within seven calendar days.

Because of the lateness of this year's budget process and the resulting delay in the issue of parking permits, no fines will be issued for not having a valid permit until May 29, says Sullivan. For more information, call Parking Services at Ext. 2118.

@GUELPH

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DEAN TO LEAD HUMBER/ GUELPH INITIATIVE

Prof. Michael Nightingale, dean of the College of Social and Applied Human Sciences (CSAHS), has accepted a request from provost designate Prof. Alastair Summerlee to take a directing role in the Humber-Guelph initiative. Nightingale will assume the role July 1. As a result, CSAHS dean designate Prof. Alun Joseph will assume the position of dean six months earlier than planned and has stepped down as chair of the Department of Geography, effective May 1. Prof. Robin Davidson-Armott will serve as acting chair until Aug. 31 while a search for a new chair is under way.

BE ON ALERT FOR VIRUSES

Last week's destructive e-mail virus LoveLetter is a good reminder of how important it is to be on the alert for possible viruses coming to you through campus e-mail, says Phil Jones, manager of Client Services in Computing and Communications Services. He encourages all members of the University community to regularly check the CCS Web site at www.uoguelph.ca/ccs for the latest news about viruses that could affect campus users.

CANDIDATES FOR ATHLETICS DIRECTOR TO SPEAK

Three candidates for the position of director of athletics will give public talks this month. Dick Freeman, assistant to the athletics director, will give a public presentation May 15 at 9 a.m. in Room 103 of the University Centre and a student presentation at 10:30 a.m. in UC 335. Harry Zarins of Concordia University will give a public presentation May 16 at 9 a.m. in UC 103 and a student presentation at 10:30 a.m. in UC 334. Joanne MacLean of the University of Windsor will give a public presentation May 18 at 9 a.m. in UC 103 and a student presentation at 10:30 a.m. in UC 334. Members of the University are invited to send comments on the candidates to Brenda Whiteside, associate vice-president (student affairs).

TSS CONFERENCE MAY 25

Teaching Support Services (TSS) hosts a conference on learner-centredness May 25 from 8:30 a.m. to 4:30 p.m. in the OVC Learning Centre. Keynote speakers are Jeanne Narum, director of the National Science Foundation's Project Kaleidoscope in Washington D.C.; and Prof. Fred Evers, Sociology and Anthropology, co-author of *The Bases of Competence: Skills for Lifelong Learning and Employability*. For more information on Narum, visit the Web sites www.pkaf.org/people/narum.html and www.pkaf.org/news/narum 1199.html. Information on Evers can be found at www.sociology.uoguelph.ca/faculty/fevers.html and www.uoguelph.ca/atguelph/98-02-27/evers.html. For conference details, visit the TSS Web site at www.tss.uoguelph.ca.

Alfred Receives \$1 Million

Funding will boost opportunities for Ontario francophones



Celebrating the news of \$1 million in funding for Collège d'Alfred are, from left, Pierre Glaude, editor of *Agricom* and executive director of Union des cultivateurs franco-ontariens; OAC dean Rob McLaughlin; Alfred director Gilbert Héroux, and MP Don Boudria, minister of state and leader of the House of Commons.

COLLÈGE D'ALFRED has received \$1 million in funding from the provincial and federal governments to acquire new technologies in support of agri-food training programs and to develop new areas of specialization.

"This is very good news for the college," says Alfred director Gilbert Héroux. "Before we became part of the University of Guelph, we weren't eligible for federal grant programs. This first grant is therefore timely and confirms that the college is here to stay for many years to come."

The funding was announced April 10 at Alfred by federal House of Commons leader Don Boudria, MP for Glengarry-Prescott-Russell. Under the Canada-Ontario Agreement on Official Languages in Education, the funding will be cost-shared equally by the two levels of government.

In a news release, Sheila Copps, minister of Canadian Heritage, the

department providing the federal portion of the grant, noted that in a knowledge-based society, young people must be given every opportunity to succeed.

"By providing quality French-language education, Collège d'Alfred offers our young francophones those very opportunities to succeed in the world today and to carve out for themselves a truly enviable position in the labour market."

Provincial funding comes from the Ministry of Economic Development, Trade and Tourism, and the proposal was supported by the Ministry of Training, Colleges and Universities.

Alfred has 120 full-time and 2,045 part-time students enrolled in a range of agri-food, horticulture and nutrition programs, as well as a growing presence in rural and international development.

"The college has served as a catalyst for economic development in

the region," says OAC dean Rob McLaughlin, "and this can only be enhanced with this announcement of support from the federal and provincial governments. It shows the confidence both levels of government have in the college's ability to develop and deliver new programs. This investment will allow us to build new linkages and develop additional resources for the benefit of rural Franco-Ontarians."

Héroux believes the funding comes with a challenge. "The challenge is for us to do better than ever, to ensure that Collège d'Alfred blooms. This funding will be invested in programs and development projects that should allow us to see strong returns on every dollar invested, in terms of the education and training of francophones to prepare them for fulfilling careers."

BY NATHALIE
LALONDE-KINGSLEY
AND ALEXANDER WOOLEY

Tennis Courts Close for Summer

Renovations to men's locker room to begin by early June

PRELIMINARY SITE WORK is to begin this month for a new covered field house to be built behind the Athletics Centre as part of a major improvement of campus athletic facilities. Because the work will centre around the tennis court area, the courts will be closed beginning May 15, says Dave Copp, director of athletics.

The courts will be relocated to South Residences by the end of the summer, he says, but in the interim, U of G has negotiated a deal with the Cullen Club for members of the University community to use the club's tennis facilities at a cost of \$35 for the semester.

"We will meet with all students interested in tennis early this semester to let them know of other alternatives, including the many free courts

across the city," he says.

The Athletics Centre improvements, which also include a major renovation of the men's locker room, are expected to be completed this fall. The field house will consist of two indoor fields for intramural soccer, field hockey and Ultimate Frisbee, and a four-lane track for recreational use and training for the intervarsity track teams.

The renovations to the men's locker room are expected to begin in late May or at the beginning of June, says Copp. During the summer, men will use the upstairs section of the women's change room, accessing it from the upper floor. The stairwell connecting the upstairs and downstairs will be blocked off.

"The only other alternative was to close down the locker room for

the summer," he says. "This way, we can accommodate all of our users, albeit with some level of inconvenience."

The decision to put the men upstairs was made in consultation with the Athletics Advisory Committee, which has faculty, staff and student representation, says Copp. Women will have the lower floor because it has direct access to the pools men will have to use the external hallway and enter the pool area through the front doors.

The men's locker room has not undergone major renovations for at least two decades, says Copp. The women's locker room was renovated in 1993.

This summer's improvements are being funded by students through the capital building fee.

PEOPLE

MICROBIOLOGISTS HONOURED

The Canadian Society of Microbiologists has named Prof. Cecil Forsberg, Microbiology, winner of its highest honour, the Roche Diagnostics/CSM Award. The award is a broadly based career award, recognizing an eminent and highly accomplished microbiologist. Forsberg, a faculty member at Guelph since 1973, has focused his research in the area of rumen microbiology, with recent activities centred on the improvement of digestion in domestic animals. The society also awarded the CSM Gold Award (Canadian Graduate Student Microbiologist of the Year) to Jolynne Drummelsmith, who is currently completing her PhD studies with Prof. Chris Whitfield and will soon be moving on to a post-doctoral fellowship at Laval University.

FOOD SCIENTIST RECEIVES INAUGURAL RESEARCH AWARD FROM OIL CHEMISTS

Prof. Alejandro Marangoni, Food Science, is the first recipient of the American Oil Chemists' Society's Young Scientist Research Award, which recognizes a young scientist who has made a significant and substantial research contribution. A 1989 PhD graduate of Guelph and a faculty member since 1991, Marangoni was selected on the basis of his work in opening up new areas of research in the area of fat crystal networks and on fractionation and interesterification. The society also honoured two Guelph PhD students at its annual meeting in San Diego last month. Ken Stark of the Department of Human Biology and Nutritional Sciences and Amanda Wright of the Department of Food Science both received Honoured Student Awards and presented papers. Stark also received the Health and Nutrition Division Student Excellence Award for outstanding merit and performance.

ECONOMICS PROFESSOR PROFILED IN WHO'S WHO

Prof. Louis Christofides, Economics, was profiled in the recently published *Who's Who in Economics*. The invitation to appear in the publication is a tribute to the important international impact of his wide-ranging research in labour and macroeconomics.

MAY 29 RECEPTION TO HONOUR PROVOST

President Mordechai Rozanski is hosting a reception May 29 to honour Prof. Iain Campbell as he completes his term as provost and vice-president (academic). The event runs from 4:30 to 6:30 p.m. in the Conservatory Gardens (rain location is the Whippletree on Level 4 of the University Centre). To attend, call Alles Fairclough at Ext. 6542 or send e-mail to afairc@exec.adm.uoguelph.ca. A scholarship for third-year physics students is being established in Campbell's name. Donations towards the J.L. Campbell Scholarship in Physics can be sent to Alumni House.

IN MEMORIAM

GLEN WARLOW

Retired extension education professor Glen Warlow died April 1 in Toronto at the age of 80. A graduate of OAC and Wayne State University, he joined OAC as a lecturer in 1946 and served as the college's director of information from 1951 to 1957, when he was named director of the Ontario Department of Agriculture's information branch. In 1961, he was appointed professor of extension education in OAC, a position he held until his retirement from the School of Agricultural Economics and Extension Education in 1984.

Prof. Warlow is survived by his

wife, Betty; three children, Rhonda, Greg and Scott; and two grandchildren, D'Arcy and Michaela. Memorial donations can be made to the U of G Alumni Fund care of Alumni House.

* * *

TONY WHITING

Retired OVC agricultural assistant Tony Whiting died May 2 after a long illness. He was 65. He was employed at OVC from 1973 until his retirement in January 2000. He is survived by his wife, Jean; a daughter, Bobbie Chamberlain; and three grandchildren, Laura-Jean, Alicia and Charles.

Ontario Graduate Scholarships Will Grow by 50 Per Cent

Continued from page 1

massive increase in enrolment we will see over the next decade. That planning is already under way, and we anticipate working with the government to see it to a successful completion."

News was also positive on the student assistance front. For OSAP calculation purposes, exemptions have been increased from \$600 to \$1,700 for work-study period employment and to a previously announced \$3,500 for scholarship income.

The Ontario Work-Study Program will double in size, and the number of Ontario Graduate Scholarships will grow by 50 per cent — from 1,300 to 2,000. At the same time, the value of each scholarship will be increased from \$11,859 to \$15,000, beginning in 2001.

"This student assistance funding is welcome, not only in terms of accessibility but also in starting to address the faculty hiring issue," says Rozanski. "Over the next several years, Ontario's universities will need to hire 11,000 to 13,000 new faculty and will do so in a highly competitive hiring environment. Today's undergraduate and graduate students will form tomorrow's faculty. We need to have the funding in place to ensure that those students can attend university, complete their degrees and do so in a quality learning climate."

The OIT will triple in funding with the addition of \$500 million in new money, bringing the total invested to \$750 million. The ORDCF will double in size to \$100 million, with the increase in funding to be used to focus on cancer research.

The annual allocation of Premier's Research Excellence Awards will be doubled as well.

The government also announced the creation of a \$30-million Research Performance Fund, which will support research

overhead costs, to be used to match funding from provincial ministries, including the Ontario Ministry of Agriculture, Food and Rural Affairs.

The budget included an additional \$286 million for colleges and universities through the SuperBuild Growth Fund. The increase will fund 24 new capital projects and a \$55-million modernization fund. Combined with the \$742 million announced in the 1999 budget, total expenditures on new capital projects for 1999/2000 will be \$1,028 million.

Donations to universities also receive a break. The retail sales tax will be eliminated on donations to educational institutions, and corporations and unincorporated businesses will receive improved tax benefits for equipment and technology donations to colleges and universities — a 15-per-cent deduction for corporations and a five-per-cent refundable tax credit for unincorporated businesses.

Days earlier, the government released a consultation paper that would allow the establishment of private degree-granting universities in Ontario and also permit Ontario's colleges of applied arts and technology to offer applied degrees on a pilot project basis.

"I'm not persuaded that private universities are the best way to respond to the double cohort," says Rozanski. "Our priority is strengthening the quality of a university education and ensuring accessibility. I am concerned about any initiative that diverts attention or resources from our most pressing issue, the challenges of quality, faculty/staff hiring and increased enrolment that we will be facing. Having said that, I think this budget, with its emphasis on research, infrastructure and student assistance, is a sign we are heading in the right direction. I continue to hope and anticipate that the government will do the right thing."

BY ALEXANDER WOOLEY

Animal Health Laboratory to Be Centralized in Guelph

Restructuring will allow unit to provide more comprehensive service

AS A RESULT of a strategic planning process and feasibility study conducted by U of G, staffing changes will be made that will affect the province's three Animal Health Laboratory (AHL) facilities at Guelph, Ridgeway and Kemptville. The key component of the change is the centralization of most AHL services in Guelph.

To accomplish this, the AHL facility at Ridgeway will be closed effective May 31, 2000, and staffing will be reduced at the Kemptville lab. Some staff at both locations will lose their positions, some will be offered positions at the Guelph facility, and some will be offered an early retirement option.

"A primary concern is ensuring that our employees are treated fairly and openly through this process," says Pat Collins, general manager of U of G's Laboratory Services, of which the AHL is a part. "There are challenges ahead, and we are counting on their co-operation to make this transition a success. To that end, we have met both collectively and individually with all employees to explain the changes under way and to communicate severance packages and employment opportunities where applicable."

The centralization plan will result in the restructuring of positions

currently at the Kemptville and Ridgeway facilities. AHL managers have detailed the plan to staff members at all three facilities and are working with personnel directly affected to see that staffing changes are implemented fairly and smoothly, says Collins. Staffing options are being discussed with those most likely to be affected.

This centralization will not result in a cut to the AHL's budget and will allow the unit to provide more comprehensive and in-depth service from its Guelph facility, she says. In addition, improved transportation and communication systems have allowed centralization of testing facilities to improve efficiency and decrease overhead costs.

"We undertook this planning process to better serve our clients," says AHL manager Grant Maxie. "To do so, we need to build on the critical mass already established at the AHL facility at Guelph. Through this centralization, we will enhance our service capabilities in some needed analytical areas. We will have high-quality expertise and experience in one location where information and technology can be shared. The result will be improved services for our clients. I'm also pleased that we'll be able to continue to serve eastern Ontario veterinarians and

farmers through the AHL facility at Kemptville, although with reduced staffing."

The AHL provides veterinary diagnostic services for external clients and for OVC's Veterinary Teaching Hospital. It serves more than 600 core clients and performs at least 600,000 tests annually.

A number of enhanced services will be provided by the AHL at Guelph. Improvements will include:

- extended hours of weekday service and Saturday hours for specimen reception, bacteriology and clinical pathology;
- shorter turnaround times for clinical pathology and bacteriology;
- improved consistency of testing; and
- enhanced quality and scope of diagnostic testing.

Kemptville's AHL facility will continue to provide service to veterinarians and farmers in eastern Ontario, where there is a concentration of livestock farms. One veterinary pathologist/disease surveillance specialist and one technician/customer service representative will remain at Kemptville, which will continue to serve as a regional centre for post-mortems.

BY ALEXANDER WOOLEY

Patents, Research Contracts Show Dramatic Increase

Revenues from licensing agreements up 90 per cent from 1996/97

U OF G'S Business Development Office has chalked up a fourfold increase in inventions filed for patent and a doubling of research contracts in recent years.

U of G's growth in this area is not unique. Nationwide, the number of inventions reported by universities and hospitals rose 26 per cent from 1998 to 1999, according to Statistics Canada.

From 1997 to 1999 at U of G, 34 licensing agreements and 560 research contracts (including government) were signed, and 31 inventions were filed for patenting by the Business Development Office.

These are significant increases from previous years, says Connie Hearty, director of business development. And it means that increases in research dollars and research revenues are flowing into the University.

"Guelph is quickly becoming a major centre for first-rate research," says Hearty. "To maintain high levels of excellence in research, we need to be proactive in our search for funding. Our goal is to support faculty in moving their technologies forward commercially. Our number one client is our faculty."

U of G's research contract growth is reflected in a doubling of contracts over a four-year period — from 157 in 1995 to 311 in 1998. In total dollar value, research contracts have climbed from \$7.3 million in 1995/96 to \$13 million in 1998/99. And research contract values are expected to rise dramatically in the future because of new support for U of G infrastructure research projects from the Canada Foundation for Innovation, the Ontario Research and Development Challenge Fund and the Ontario Innovation Trust.

One of the most dramatic increases in the Business Development Office is the number of inventions filed for patenting, says Hearty. Eighteen inventions were filed for patent in 1999, compared with four in 1996.

Licensing agreements were rare on campus five years ago, but now they're one of the office's busiest areas, with revenues up by 90 per cent since 1996/97. It can take several years for licensing agreements to bear fruit in the form of royalties, but patience is rewarded, says Stephanie De Grandis, associate director of business development.

One of U of G's most successful licensing agreements is held with

American Home Products for Pre-sponse, a cattle vaccine that has provided an average of \$140,000 in annual royalties in the past decade. Other lucrative U of G licensing agreements are held with Roche Vitamins (membrane vesicle delivery systems), Atairgin (a cancer detection method) and the Innovations Foundation (a test to detect the halothane gene in pigs).

Examples of licensing agreements that show promise include Buckeye Feed Mills Inc. (an equine oral electrolyte product), the University of Stellenbosch (a method to transform micro-organisms in wine yeast), Silav-gen (somatic embryos) and Gensel Biotechnologies (sperm sexing).

The Business Development Office's priorities include:

- identifying, evaluating and protecting intellectual property;
- attracting revenue by technology transfer, patenting and licensing; and
- developing new mechanisms to increase economic and social returns of research.

BY MARGARET BOYD
OFFICE OF RESEARCH

Professor Talks, Listens to the Animals

Ethics course wins inaugural award from U.S. Humane Society

PROF. IAN DUNCAN, Animal and Poultry Science, did his doctoral research on whether chickens who live in stacked cages feel stress. Over the years, he's taken some ribbing from colleagues who found his topic "less than academic," but he's never cared. That dissertation was just the beginning for Duncan, who went on to make a career out of talking and listening to the animals.

"Surely we can tell by studying them if they are frightened, happy, frustrated or in pain," he says. His research focuses on "asking" animals how they feel about the conditions they're kept in and the procedures they're subjected to.

Many people still adhere to the traditional western view that animals have only instrumental value — an attitude that can be traced back to the theories of Aristotle and Aquinas, says Duncan.

"But I've always agreed with another school of thought, and philosopher Jeremy Bentham put it best: 'The question is not: 'Can they reason?' nor 'Can they talk?' but 'Can they suffer?'" All vertebrate animals can suffer and therefore deserve to be treated humanely."

Duncan, who is director of the University's Col. K.L. Campbell

Centre for the Study of Animal Welfare, has incorporated his views into the course "Principles of Farm Animal Care and Welfare," which he has taught since 1995, following the retirement of Prof. Frank Hurnik. It was one of the first programs in North America to expand the scope of the ethical treatment of animals from the home to the farmyard. "People still tend to treat their dogs and cats very differently from the way they treat other animals," he says.

Duncan's course was recently honoured with the inaugural Animals and Society Course Award from the Humane Society of the United States, North America's largest animal protection organization. It was named the best established course from a variety of academic fields, including animal science, law, environmental studies, philosophy, psychology and biology. The winner was selected based on how well the course addresses issues of animal ethics and animal protection. Duncan received a plaque and \$1,500.

"I'm absolutely delighted about the award," he says. "I thought for sure the winning course would be from a philosophy department. The fact that they gave it to an animal sci-



Prof. Ian Duncan says chickens are smarter than people think and, like all animals, deserve to be treated humanely. PHOTO BY ANDRES KAHAR

ence program really surprised me."

He's not surprised, however, that such recognition would come to U of G. "Guelph is a leader in animal welfare programs and even further ahead in its treatment and use of animals," he says.

Duncan is continually working to keep U of G in the forefront through initiatives such as the "Farm Animal Welfare: Challenge 2000" conference he's organizing for June 10. The event is an opportunity for the livestock industry to share ideas and develop a collective understanding. It will include sessions on topics such as animal welfare research, the impact of science and technology on

food animal production, consumer trends and ethical considerations for the new millennium.

Duncan covers many of those same topics in his award-winning course, which is as unique as the subject matter. It includes traditional lectures and discussions, but students also participate in role-playing exercises that deal with real-life ethical issues, debates and seminars aimed at developing confidence in expressing ideas. Students also examine the role culture plays in animal treatment and the origins of varying attitudes.

The goal is for students to appreciate the relationship between ethics

and science, to justify a moral point of view and to be creative in solving animal welfare problems, says Duncan, who also team-teaches an ethics course at OVC with Prof. Peter Conlon (see story below).

"I want the students to learn to be sensitive to others' points of view," says Duncan. "I hope they leave my class with their minds opened up a bit, but I also want them to be confident to speak their mind."

He's had plenty of practice doing just that, having spent his career in a field many people don't understand. "But things have improved dramatically over the years," he says. "People today are much more sensitive to these issues."

A graduate of the University of Edinburgh, Duncan earned his undergraduate degree in agriculture, then pursued an interest in animals by conducting his PhD research on how laying hens feel about their environment. Hens typically live four or five birds to a cage, with cages stacked three or four tiers high.

He later went to work for the Poultry Research Centre in Edinburgh, which is part of the institute that cloned the now-famous sheep "Dolly." He studied poultry behaviour and welfare for 20 years before immigrating to Canada in 1989 and joining the faculty of U of G.

"A lot of my colleagues used to say: 'Who cares about chickens?' They think it's a strange thing to specialize in. But there's a lot more to chickens than you think — they're quite clever," Duncan begins listing their abilities: recognizing each other, establishing hierarchies, sharing resources. "They can also learn to do quite complicated things," he says. "Once people know that, they feel differently about them."

BY LORI BONA HUNT

Ethics to Have Higher Profile in OVC Curriculum

Ethics to be incorporated into courses at all levels

FUTURE OVC GRADUATES will have even greater understanding of the role ethics plays in the care they provide animals and their owners. Beginning this fall, ethics will be incorporated into various required courses at each level of the veterinary medicine program. The change is part of OVC's new curriculum, which is being phased in over a four-year period, and a larger effort to increase awareness and knowledge of animal welfare and ethics at Guelph.

Currently, the course "Ethics in Veterinary Medicine," team-taught by Prof. Ian Duncan, Animal and Poultry Science, and Prof. Peter Conlon, OVC's assistant dean for student affairs, is mandatory only for first-year students.

"It touches only the surface of the whole subject, which is one of the reasons for the impetus to increase the profile in the new curriculum," Conlon says.

"In veterinary medicine, what appears to be black and white, cut and dried, often isn't — there's a huge range of 'in between.' It can be difficult to know where to draw the line."

That's why it's important for veterinarians to understand ethics and know how to deal with difficult and emotional situations, he says.

Under the new curriculum, ethics

will be one part of three multidisciplinary "Art of Veterinary Medicine" courses — one in each of the first three years of the curriculum. The first course will focus on awareness of expectations and values in situations that include ethical issues.

In the second and third years, ethics components will involve more problem-solving, with students confronting and dealing with situations such as convenience euthanasia, indigent clients and use of animals in teaching and research. During the fourth clinical-learning year, students will be asked to draw on what they've learned and apply it in their clinical work.

During all four years, there will also be greater emphasis on understanding the relationship between pets and their owners.

"The importance of the human-animal bond is one of the newer discussions in veterinary medicine, just coming to the forefront, and we want to make sure our students are learning the correct skills," Conlon says.

"Revitalizing a curriculum gets you thinking about what the college can do differently and do better," he adds. "It also says that ethics is a teachable, learnable skill, and that everyone can improve in this area."

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OUTREACH: BOUNDLESS RICHES

"The challenge is to make integrated outreach a part of the way we do what we do"

BY DAVID DOUGLAS

WE USE THE TERM "reaching out" to someone with some affection and compassion. It just sounds like a good thing to do. Depending on our value system and ideological convictions, we expect society to reach out to at least some of its citizens, especially those who are marginalized because of poverty, discrimination, mental and physical disabilities and other factors that make some more vulnerable than others. To varying degrees, we gauge the degree of civility in our society according to the condition of the weakest among us.

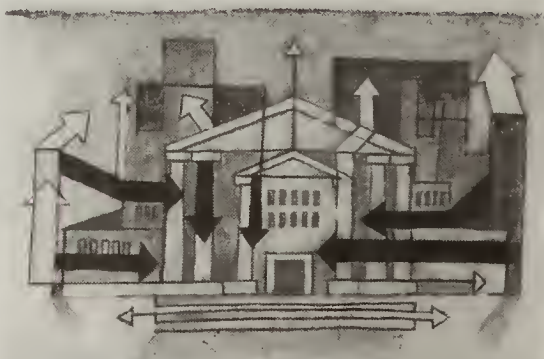
In Canada, universities are under enormous pressures. Some view these pressures as challenging the very core of universities as centres of independent inquiry and intellectual development. Others see the changes as appropriate, making universities more effective sources of feedstock for the economy's labour force and commercial products and services. Whatever the view, the interrelationships of universities and society, including the global community, are central to the debate. How we connect with the various interests, sectors, institutions, constituencies and other groupings that make up our society today is and will continue to be a central consideration in the debate concerning the role and relevance of the university.

Outreach is about interrelationships. A university has a multiplicity of changing relationships with a variety of individuals, companies, governments and others. These range from the contractual relationships with students, business arrangements with suppliers, legal and political relationships with governments and commercial relationships with corporate partners to peer relationships with other educational institutions and a host of research and collaborative arrangements with faculty and others at other universities and research institutions.

Outreach is to be distinguished from commercial relations, where profit is a primary goal. Likewise, outreach is to be distinguished from "service," through which staff or faculty donate time to community and other causes such as Big Sisters and United Way. It is also different from the democratic process through which faculty and staff might become involved in political or related issues, such as the environment and international social justice. It is different from the more narrowly defined technical "extension" through which a university might promote or expedite the dissemination of new technologies. Here, the university is the expert, and even with some deference to indigenous know-how, the interrelationship is asymmetrical, reflecting the university as validated source of solutions.

Outreach, sometimes referred to as "integrated community outreach," reflects a mix of motives and processes. Like service activities, it is informed by moral convictions and a sense of social responsibility. These convictions indicate that the university should be of direct value to communities, individuals, organizations and others in solving pressing problems and availing of opportunities. We try to go beyond our responsibilities to augment the body of society's knowledge, being a trustworthy custodian of accumulated knowledge and being an effective teacher and facilitator of knowledge acquisition and personal development. We become an active agent in the daily lives of others beyond the campus.

This moral conviction is translated into action through carefully evolved collaborative interrelationships. Among the key attributes of these relationships is a conviction that the community or other collaborator brings as much to the table as the university. The single-source "expert model" is jettisoned. This doesn't mean that technical, process and other expertise isn't brought to the situation by faculty or staff. Indeed, this is usually expected. It means the asymmetrical relationship giving hierarchical status to the "professor" or "doctor" is set aside in favour of a more horizontal, collaborative process acknowledging and respecting everyone's expertise. This expertise, it is understood, has been garnered from lifelong experience, heritage, folklore, practice, work, family, craft skills, personal development and a host of other sources. Wisdom is not the least among these resources. The expertise accumulated from the world of the university is but one source of knowing. This moral conviction and the ethical and practical way it is played out are



fundamental to the concept of outreach.

A hallmark of this collaborative process is an understanding about the ownership of any products that may emerge from it. Generally the report, the workshop record, the maps or whatever are first and foremost common property among the collaborators. Use of the documents or other physical products has to be negotiated. The academic use as course materials, faculty publication, etc., must be balanced with the priorities of the other partners. Another distinguishing characteristic is that appropriate process may also be central to an agreed-on arrangement. The modus operandi is negotiated. How we conduct ourselves in the research and related processes must be arrived at through discussion and sensitivity to local context and conditions. Not the least of the considerations will be the "footprint" we leave behind as we disengage, as we surely will, and how the local organization or community collaborating with us gets on with its life. As with products, we have to reach a balance between the dictates of academic rigour and systematic research procedures and what works and is acceptable in the lives of our outreach collaborators.

Although researchers may independently raise an issue of common concern with potential collaborators, the trigger for outreach undertakings usually comes from the university's partners. This isn't surprising because although the topics may be systemic or of long-term import (e.g., divisiveness in the community, economic stagnation), they are first and foremost seen and articulated as issues or opportunities. "Something has to be done about this!" "We cannot miss this opportunity." We are invited to enter these people's lives and livelihoods. We are invited into their space, often into their homes. This process resonates with the sacredness of trust and is immensely moving. It colours the entire interrelationship. It reminds us that our received Cartesian constructs of object and subject are challenged, as our outreach partners become at once subject and object.

So outreach allows for a mix of personal service, professional practice, research, teaching, training, project management and other activities. Collaborations are usually confirmed through some type of contract — sometimes formal, sometimes not. Sometimes collaborating rural municipalities or interest groups want to make a financial contribution to student scholarship funds. Usually, project disbursements such as local travel are covered by the collaborating partners. In addition, significant contributions-in-kind through facilities, local communications and other inputs are provided.

University outreach should be a cyclical process, a cumulative process of extraordinary productivity. After the initial contact and invitation, it's not unusual for faculty and students to spend time with their potential collaborators discussing problems or opportunities. The issues may be confirmed or revised through the research process, but what has started is a process of social learning. The knowledge base of the undertaking is being created on the spot through dialogue, not just through the world view and disciplinary baggage of the researcher. From there, research and other activities might be agreed on, responsibilities and authority assigned, and resources requirements identified. Sometimes an action research process is agreed on or evolves, leading to concrete action and interventions (such as

preparing a proposal for funding or training local residents) as the research continues. After reflection on these parallel initiatives, the research process itself may be fine-tuned and adjusted. There are, therefore, internal cyclical processes that at once attach the research to the real-world conditions and priorities of the community or organization, allow all collaborators to assess the relevance of the findings, and recursively hone the ongoing research process itself. Aristotle might have called this praxis. The university's colleagues call this "being real" and therefore being relevant. The attuned researcher is impressed with the rate of learning, knowledge creation and dissemination through action. She or he might see the handprint of Dewey's pragmatism in this cyclical process of experiential learning.

The magic doesn't end there. The learning is brought back to the classroom and placed beside

received concepts, theories, research protocols, practice modes and other knowledge sets (the so-called layperson's "book knowledge"). Dialectical processes of assessment, critique, refinement, falsification and validation occur as students and faculty reflect on their experiences and learning and try to attach these to the received bodies of knowledge that inform their discipline or practice. This is an extremely rich and productive part of the outreach circle. This synthesis, this recalibrated and new knowledge, as well as new questions, new uncertainties and challenges, is brought back to the field. And the process continues: learning by doing, doing by learning.

Individuals, communities, local governments, companies and other organizations outside the university benefit from these creative collaborations. They are respected as equals, they bring their extensive knowledge and informed perspectives to the table, they work on their own priority issues and opportunities. They access the knowledge and skill base of faculty and students. They get work done for a modest financial expenditure. The enthusiasm of students, their interest and vital willingness to learn is infectious and fuels the entire process. They are openly admired and praised by the university's outreach collaborators. They, in turn, gain valuable hands-on experience in applied and basic research. There are usually rich opportunities for small-group process, field research, survey design and execution, field testing, report writing, presentations and other communication activities. Sometimes the outreach project can be part of a practicum or professional internship or the basis of a research paper or thesis. Many projects are conducted as integral components of courses, usually graduate courses. Faculty gain through the application of research processes, new databases, opportunities to test hypotheses and ideas, enhanced instructional opportunities and valuable personal and professional experience. Not the least, the university's accumulated body of knowledge and its research capacity are enhanced through application and critical reflection.

Outreach provides a great opportunity for U of G. It's an opportunity to do relevant research in a respectful manner, blending our societal and academic responsibilities in a manner, as one planning theoretician put it, "to do good and do it well." The issues are daunting, from child poverty, environmental degradation, cancer, illiteracy and massive dysfunctionality in accepted market economic systems to overextended local government systems, growing concerns over food security and breaches of humanitarian law.

The challenge for Guelph is to make integrated outreach a part of the way we do what we do. The benefits for the University are legion, ranging from enhanced learning and development opportunities for students (and faculty) to enrichment of the institution's knowledge base and research capacity. Tangible contributions to society's priorities contribute to an increased sense of relevance and expansion of the University's constituency — not an insignificant issue today. It is a potent way to develop new interrelationships and significantly enhance ones already established.

Prof. David Douglas is a faculty member in the School of Rural Planning and Development.

IT'S A GOOD THING

U of G economics grad is chief financial officer for Martha Stewart Living

BY LORI BONA HUNT

IT'S BEEN NEARLY two decades since retired OAC professor Bill Braithwaite taught a class attended by Helen Murphy, a 1982 economics graduate who is now the chief financial officer for Martha Stewart Living Omnimedia LLC. But Braithwaite, who retired in 1997 from the Department of Agricultural Economics and Business, remembers Murphy as if it were yesterday.

"She was one of the best pupils I ever had — very bright, very aggressive, very focused," he says. "There are certain students you never forget, and she was one of them. I can tell you exactly where she sat in my financial management class — in the front row next to her friend Brenda Whiteside. They were in the third and fourth seats on the left side." Whiteside, who earned a BA in economics from Guelph in 1982 and an MA in 1983, is now U of G's associate vice-president (student affairs).

Braithwaite laughs and continues: "I can remember where they sat because I never went into that classroom unprepared, not with those two in the front row. They were always ready to challenge you on every issue, and you had to make sure you were on your toes. As a teacher, you love that."

But it's Murphy who's on her toes these days. In September, she became the chief financial officer for Martha Stewart Living Omnimedia of New York, a position she accepted while on maternity leave after the birth of her second child. "I'm very excited — it's obviously a unique opportunity," says Murphy.

Martha Stewart Living is an international multimedia company with annual revenues approaching \$225 million. The company's realm includes monthly and quarterly magazines, syndicated television and radio shows, a newspaper column, books, mail-order catalogs, online merchandising businesses and strategic partnerships with companies such as Kmart, Zellers and Sears.

"It's a wonderful company with great growth possibilities, a clean balance sheet and great management," says Murphy. "I expect to have a long, fruitful and challenging career here."

Like many young professionals, Murphy is juggling a career with family responsibilities. She and her husband, Michael Luksha, whom she met in Guelph in 1984, have a baby daughter, a three-year-old son and a new home in the suburbs. But Murphy, a native of Stoney Creek, seems unfazed by all the recent changes in her life. "I've always risen to the occasion with respect to challenges."

Indeed, her record speaks for itself.

Murphy skipped a couple of grades in elementary school, so she was only 16 when she graduated from high school and enrolled at McMaster University. By the time she was 21, she had a bachelor's degree from Guelph and an MBA from the University



of Western Ontario. At 19, she started her own business, a dance studio in Guelph, with her two sisters. "I wasn't a dancer, but my sisters were great gymnasts, and I was always the little entrepreneur," she says. "This was during the years when *Flashdance* was really big, so I called my sisters and said: 'Come turn your activity into a summer job.'"

But it was basketball, not dancing, that brought Murphy to Guelph. "I didn't make the basketball team at Mac my first year and I was crushed," she says. A friend suggested she take some summer courses at U of G to take her mind off it, so she enrolled and fell in love with the campus.

"I trained really hard that summer and tried out for the Guelph team and made it," says Murphy, who played basketball throughout her years at U of G and later for the University of Western Ontario. "We went back and kicked McMaster's behind," she adds with a laugh.

It was during those years that Whiteside first met Murphy. "She's always been a very driven person," says Whiteside, who took some honours undergraduate courses with Murphy and later taught with her in the Department of Economics. The two have remained in contact over the years.

Murphy enrolled in the most difficult courses offered, but never complained and always maintained a great sense of hu-

mour, says Whiteside. "One thing I remember about her is that she didn't need a lot of sleep and she was never sick or tired — it was always 'go, go, go.' She has more energy than anyone I know. She gets bored easily and was always game for something new."

After graduating from Guelph, Murphy went to work for Confederation Life Insurance Company and also taught financial management courses with Braithwaite. "She was a very good teacher and wonderful role model," he says. He recalls the time two "big football players" in the back row tried to challenge her in class. "They left with their tails between their legs and I never saw them again."

Murphy went on to work as a senior analyst for Prudential-Bache Securities, then became vice-president of research for Richardson Greenshields before moving to New York in 1990 to join PolyGram Holding Inc. At PolyGram, she rose from vice-president of investor relations to become CFO of the record company in 1997. In 1999, she left to become the chief financial officer for Westvaco Corp., a paper and packaging company, before joining Martha Stewart last fall.

Murphy has been with Martha Stewart long enough that she's ready for the inevitable question: what's it like to work for the queen of do-it-yourself projects? "Well, she's brilliant," says Murphy. "She has crafted a wonderful creative company and developed a great brand. She has great intuitive skills, so it's really challenging to work with her. She is multi-faceted, very smart and very demanding. Those are key characteristics for a successful growth company."

Although Murphy is planning on a long career with Martha Stewart, she says she can see herself following in Braithwaite's footsteps one day. "I love teaching because students ask the most insightful questions and are unencumbered by the day-to-day pace of life. I find it very intellectually rewarding."

When she first arrived in New York, she tried teaching at New York University, but found the atmosphere of the city campus couldn't match Guelph's. "When you step back on the U of G campus, it's just a great feeling. Watching people walking around, there's just such a sense of freedom."

Braithwaite, himself a frequent visitor to campus, has kept in touch with Murphy over the years. He attended her wedding, and the two exchange Christmas cards and e-mail messages. How does he think Murphy will do at her job? "She'll handle Martha Stewart," he says with confidence.

But can Murphy challenge Stewart on the homemaking front? Braithwaite laughs and admits that in all the time he's known Murphy, he's never been asked over for dinner. He says he's heard that his former prized pupil isn't too handy in the kitchen. "But Martha Stewart didn't hire her for her cooking talent — that's for sure."

Centre to Evaluate Program for Babies, New Moms

Province awards contract to Centre for Families, Work and Well-Being and Toronto research firm

THE ONTARIO Ministry of Health and Long-Term Care announced April 17 that U of G's Centre for Families, Work and Well-Being will share \$4.4 million in funding to evaluate the province's "Healthy Babies, Healthy Children" program.

Prof. Bruce Ryan will serve as principal investigator, with Profs. Kathy Brophy and Donna Lero as co-investigators. All are members of the Department of Family Relations and Applied Nutrition. Their research partner is Applied Research Consultants (ARC) of Toronto.

"This is a prestigious and impor-

tant research contract for both the centre and the University," says Lero. "This applied evaluation research project fits well with the academic and professional experience of the three faculty members involved and is entirely in keeping with the mission of the Centre for Families, Work and Well-Being, which is to promote individual and family well-being, responsive and productive work environments, and strong, sustainable communities."

The "Healthy Babies, Healthy Children" program, which is administered province-wide by Ontario's 37 public health units, is designed to

help new mothers and babies after they've been discharged from hospital. Through the program, all new mothers receive an in-home visit and a phone call from a public health nurse, as well as access to screening and referral services.

Ryan, Brophy and Lero, along with their colleagues from ARC, will have two years to evaluate the program's performance in terms of processes and outcomes, and to look at potential new parenting and support programs that could be offered. They especially want to see how the services are working to improve the health of children and whether the

services are reaching the full diversity of Ontario's youngest children and their parents. The centre and ARC will oversee more than 50 researchers organized into five regional teams.

Three provincial ministers made the April 17 funding announcement, noting that the Centre for Families, Work and Well-Being had been selected for the evaluation because it's "an institutional leader in family and early childhood development research."

At the same time it announced the \$4.4 million for the research project, the government pledged an

additional \$17 million for the program as a whole to provide increased services.

The research project will also involve a former graduate student of Lero's, Alison Normore, who earned her PhD from Guelph in 1998. She has been hired by ARC to act as a project leader. Normore's research at Guelph related to primary prevention for young families and also involved Brophy and Prof. Susan Evers, working on the inter-university consortium researching the "Better Beginnings, Better Futures" program.

BY ALEXANDER WOOLEY

LETTERS

EQUITY PLAN IS GOOD INVESTMENT

If a dice that is rolled 100 times lands 95 times on one side and five times on its other five sides, one could be pretty certain that something is wrong, without necessarily being able to say how many extra times or on which particular occasions the dice should have landed on the other five sides. Yet in Canada's universities, endless throws of the "employment dice" continue to result in dramatic over-representation of particular groups and the under-representation of others. Many believe that nothing short of a miracle will ensure that fairness is accorded all who wish to become candidates for employment.

Attempts to discredit programs established to redress long-term inequalities in employment are under constant attack. Many will recall the famous 1974 U.S. case *Regents of the University of California v. Bakke*, where the U.S. Supreme Court ruled against the establishment of admission quotas to the university's medical program. What most who have not read the Bakke decision fail to appreciate is that, although the majority opinion in that case held quotas to be unconstitutional, they also said that addressing under-representation of minorities was permissible. The majority opinion stated that the university's goal of creating a diverse student body was clearly a "constitutionally permissible goal." Indeed, the court offered the Harvard College program as a model to the University of California and, in doing so, stated that "race or ethnic background may be deemed a 'plus' in a particular applicant's file, yet it does not insulate the individual from comparison with all other candidates for the available seats."

U of G's Employment Equity Committee believes that only through conscious efforts to identify and remove barriers to their employment and promotion will members of historically disadvantaged groups be able to take their place in our community. These disadvantaged groups exist, not arbitrarily as is asserted by Prof. Art Hill in the April 12 issue of *@Guelph* but because of their histories, which have been characterized by marginalization. The Employment Equity Committee is committed to ensuring that everyone who bears responsibility for hiring and promotion understand that once they have been presented with a qualified pool of applicants, their chief accountability lies in ensuring that no impediments to equitable hiring are deployed or ignored.

In Prof. Hill's letter, he cites Dorren Kimura's view that at this time, women are being hired for faculty positions in significantly greater proportion than males. What an insult it is to suggest that these women are somehow not qualified for their positions! Both Prof. Hill and Dorren Kimura's positions would be strengthened if they were able to show that current unnatural over-representations in university teaching are purely the result of hiring the best person for the job and not the application of unacknowledged cultural codes.

Far from being a waste of university finances, the development of an employment equity plan is a good investment. There are at least two good arguments here. First, as Prof. Hill knows, U of G currently receives more than \$10 million in federal government funds. If we received as little as \$200,000, we would be required by law to develop an employment equity plan. The question is, who would be willing to give up their

employment at the University so that we could, as Prof. Hill seems to suggest, not kowtow to the government with respect to employment equity? Second, it seems right and proper that an organization receiving such large sums of public money be accountable to the very public, in all its diversity, that is its source.

University of Guelph
Employment Equity Committee

SURVEY INFORMATION KEPT SEPARATE FROM PERSONNEL RECORDS

The employment equity consultants would like to take this opportunity to respond to Prof. Art Hill's concerns about the identification of respondents in the University's employment equity survey, as expressed in his April 12 letter to *@Guelph*.

Prof. Hill is quite right in his assertion that the use of a personal identification number (PIN) on the survey allows the consultants to link the information on the survey with the personnel record of an employee. This makes the survey confidential but not anonymous. We used the PIN approach so the University can assess its progress in achieving a workforce that reflects the Canadian labour pool across employment categories, job classes, departments and salary grades.

The PIN also allowed the consultants to send a written reminder to people who may have forgotten to send in their completed or blank survey. We did this to maximize employee participation so the University could get as complete a picture as possible of its employee population.

As stated in the code of confidentiality, the information provided on

the survey questionnaire will be kept separate from — and will not become part of — regular personnel records. No one can request information about any individual surveyed or about what he/she answered to this survey.

The workforce survey and subsequent analysis of the survey results are necessary to the development of employment equity measures. Such measures must be developed by all employers who obtain federal contracts worth \$200,000 or more if they wish to remain eligible for such contracts.

In future, the PIN will be used only for the purpose of providing the University with an employment equity database and no other purpose. No individual will be identified, and the PIN will not form any part of any other employment record at the University.

The University of Guelph supports this initiative because, in addition to complying with federal requirements, employee equity planning benefits the University's ability to recruit and retain the most highly qualified workforce.

Silvilyn Holt
Jeroo Khodi & Associates Inc.

'FOOD FOR THOUGHT' FAILS TO SATIATE

After digesting "Food for Thought" in the April 12 *@Guelph* and chasing down and reading many of Prof. Doug Powell's references, my appetite for understanding how the long-term safety of genetically engineered (GE) foods is assessed remains unsatiated. Prof. Powell describes the "evaluation" process used by Health Canada, a process based on the "substantial equivalence" doctrine that compares (by

human judgment), the composition of GE foods to their non-GE equivalents. (Whereas Canada and the OECD keep pushing substantial equivalence [innocent until proven guilty], the European Commission and Cartagena Protocol on Biosafety [Montreal conference] have adopted the "precautionary principle" [we'd rather be safe than sorry; don't sell it until you're sure it's safe]).

Prof. Powell then seems to jump to the assumption that because "conventional foods, with very rare exceptions, are not subjected to the extensive testing and evaluation that GM foods must undergo in Canada," GM foods that are "judged" to be "substantially equivalent" must also be safe.

Conventional foods have undergone more than 30 centuries of testing with human subjects. Through that trial-and-error testing, humankind learned that some foods are substantially equivalent, but when they're eaten, people get sick or die (e.g., some types of poisonous mushrooms are very similar to their non-poisonous cousins). We learned that some foods or food components, although seemingly safe, are not when consumed in excessive amounts over a long period (e.g., ice cream → fat → heart disease). We also learned that some individuals get sick or die from foods that other people love (nuts, etc.).

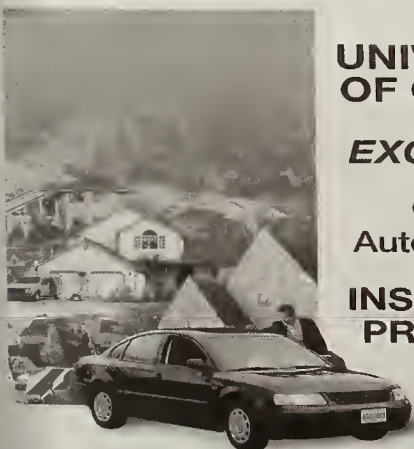
I searched Prof. Powell's article for evidence of human testing of GE foods and could find none. I searched Health Canada's *Guidelines for the Safety Assessment of Novel Foods* for some requirement for evidence of the effects on humans. No requirement for human testing could be found. In fact, if compositional substantial equivalence is "concluded" by the regula-

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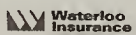
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LETTERS

tors, even animal testing may not be required.

What I did discover is that Health Canada itself does not conduct any independent research to assess substantial equivalence. All the evidence it uses to evaluate the safety of a novel food is provided by the company/inventor applying for approval to sell the novel product to consumers (Schedule 948, Food and Drug Regulations — Amendments, *Canada Gazette*, Oct. 27, 1999). This is a similar situation to the flawed drug-safety evaluation process pointed to by Nancy Olivieri. Unbiased, independent scientific evidence is not used by the regulators to evaluate either food or drug safety. Rather, the regulators rely on the evidence provided by those who will benefit from approval of the drug/food.

I guess we'll have to continue our trial-and-error process to test the safety of novel foods. Instead of clinical trials with volunteer human subjects, we'll just use the whole population as our guinea pigs.

Each year, many people die or get sick from food. Usually we discover the cause (salmonella, allergy, etc.), but sometimes we don't. In fact, sometimes we're not even sure it's something the person ate (whether recently or over time). If GE foods aren't labelled, we'll never know in the short or long run how many people get sick, have allergic reactions or die from a GE food, because we won't know if they've been eating a GE food in excessive amounts or over time. Unfortunately, the federal government is delaying and fudging the labelling of GE foods (Gerald McDuff, www.issuesnetwork.com). Ottawa appears to be acting as an agent for the interests of the agri-food/biotech industry and not as an independent, unbiased representative of the short-and-long-term wel-

fare of consumers.

Finally, to those who might suggest I am not qualified to comment on the technically complex questions surrounding biotechnology, I would respond that the issues before us are not about biotechnology. The issues are: (1) the appropriate philosophy/public policy for regulating products available in the marketplace; and (2) the process and procedures through which a socially acceptable philosophy/policy is implemented. As one who has spent more than 35 years studying consumer/marketplace policy questions and researching consumer behaviour with respect to such questions, I think I am at least as well qualified to have an opinion as any other consumer guinea pig.

Prof. John Liefeld
Consumer Studies

PENSION ADJUSTMENT LONG TIME IN COMING

Earlier this year, U of G informed me that my pension would be increased in April because of a ruling about those who retired before 1993 and opted for a 60-per-cent spousal benefit with a reduction in pension (only 50 per cent was provided otherwise). The pension reduction will no longer apply.

I and others in my situation are grateful for this change and appreciate all the work by the U of G Retirees' Association on our behalf. I would note, however, that a ruling in 1993 gave all future new pensioners the 60 per cent without a penalty. Furthermore, in 1997, pensioners who retired before 1993 but who had accepted the 50-per-cent spousal level were given the 60-per-cent benefit without penalty. Only those who chose the 60-per-cent level and agreed to pay for it continued to face

discrimination.

Five years ago, president Mordechai Rozanski informed me that because of the high cost of the spousal improvement for all retirees and the fact that it was not a top priority with the University's Advisory Committee on Pensions and Benefits, it was being deferred for later consideration. When the 1997 change came about, I pursued the issue more vehemently, as did the Retirees' Association. I was informed by Nancy Sullivan, vice-president (finance and administration), that Revenue Canada would not allow the change for my group.

In 1997, Guelph MP Brenda Chamberlain obtained a letter from Herb Dhaliwal, minister of national revenue, that stated: "Employers are responsible to determine if they wish to upgrade the existing benefits." This was not considered satisfactory for the University, so I tried again in 1998. In January 1999, a definitive letter from the assistant deputy minister, on behalf of Herb Dhaliwal, stated: "Until the income tax regulations are amended, Revenue Canada may not unconditionally accept such a recalculation; (to improve my pension) however, we will not deny an amendment to a pension plan which rectifies this situation." Furthermore, he stated again that "it is at the employer's discretion to determine whether they wish to upgrade the existing benefits."

Given the above, why should those of us in the discriminated position have been kept waiting until April 2000 to receive an adjustment, and at that time not even been offered retroactivity to September 1999? We have paid a fairly heavy price for this treatment. In my case, the penalty began in 1988 when I retired. Our pension reduction has helped maintain the retirement fund

and has allowed University pension holidays. I, for one, hope the University recognizes and appreciates our contribution and sleeps well with its apparent interpretation of "fairness."

Prof. Elmer Menzie
Guelph

GIVING THANKS FOR THE ULTIMATE DONATION

Campus ministers are often asked to hold memorial services for faculty, staff or students who have died, but one recent memorial service on campus was different. In a small U of G lecture theatre, more than 150 final-year students gathered with their professor to acknowledge those who had bequeathed their bodies to science. Over the course of eight months, the students had come to know those bodies intricately as they studied them to learn the complex science of human anatomy.

The remains are usually buried at a small ceremony during the summer, but the professor was aware that by then, her students would be gone, with no opportunity to bring closure to their experience or to acknowledge and pay their respects to the donors and their families who had made such a generous gift. So she approached the Campus Ministry, and together she and I arranged a memorial service for the students.

It took place at the end of their last lecture. With taped music by the Rankin Family and the Beatles, and with poetry, personal reflections and prayers of thanksgiving, committal and blessing, the class was helped to say thank you and goodbye to those whom they never knew and yet who played such an important role in their learning.

The students spoke of their sense of privilege and gratitude, their deep

respect for the donors and their wonder at the human body in all its complexity, revealed in a way a textbook cannot show. They stood for a minute of silence as they imagined the lives lived before the final donation was made.

On a secular campus with no religious building or religious studies, the memorial service was an occasion that brought spirituality into the classroom in a simple and moving way.

Rev. Lucy Reid
Campus Ministry

PET TRUST CLARIFIED

I am writing to clarify a couple of points in the April 12 @Guelph article "D&PA Restructuring Begins to Pay Off" with respect to OVC's Pet Trust.

First, Development and Public Affairs has confirmed that the reported increase of 1,000 new Pet Trust donors is due in large measure to a system-wide switch in reporting, in that all gifts in 1999 were singularly accounted. For example, a gift from a couple was counted as two donors.

Second, Pet Trust is administered by the dean of OVC and is guided by a board made up of pet owners, private veterinarians and people from within the college. Maire Pratschke has primary staff responsibility for the trust's day-to-day operations, including revenue generation.

Dean Alan Meek
Ontario Veterinary College

* * *

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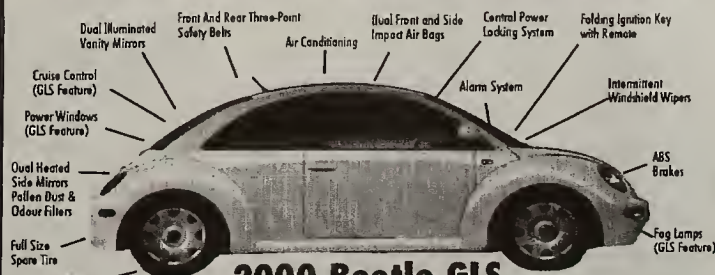
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'Postal Code' to Classify Marine Environments

Zoology prof, biologist develop planning framework for protecting representative areas in Canada's oceans and the Great Lakes

"I'M PLEASED with the report, but I feel somewhat like Monty Python, having done the bleeding obvious."

So says Prof. John Roff, Zoology, of a "postal code" system he and an Australian co-researcher have developed for classifying "neighbourhoods" of aquatic plants and animals living along Canada's extensive ocean coastline and throughout the Great Lakes, a system he hopes governments and other agencies will adopt to protect the marine environment.

Working with Australian biologist Jon Day, Roff has written a report that presents a planning framework for World Wildlife Fund

(WWF) Canada for protecting representative areas in Canada's oceans and the Great Lakes. The framework will be adopted by the conservation organization later this year.

"We are committed to establishing representative terrestrial and marine areas," says U of G graduate Josh Laughren, the Toronto-based organization's senior manager for marine protected areas. "To do that, we need to map out what those representative areas are."

WWF Canada needed a reliable system for classifying marine environments and their associated plants and animals, along the lines of the "postal code book" that Laughren's organization had developed several

years earlier to classify what lives where on land. No such ecologically based classification system existed for Canada's waters.

"Canada has the longest shoreline of any country, but what we know in terms of what's out there, apart from fisheries, is very little," says Roff, contrasting Canada's paucity of knowledge with the enviably detailed picture developed by the United Kingdom of its marine environment. "We lack inventories against which to make conservation judgments."

Adds Laughren: "All we see is the surface. We tend to think of it as a bathtub full of fish, and all we need to do is regulate how many fish we take out and how many pollutants we put in."

Not that government agencies haven't tried to classify or protect Canada's waters. In 1998, for example, the federal Department of Fisheries and Oceans (DFO) granted "protected area" status on the Gully, an underwater gorge off Nova Scotia that is home to many species, including the northern bottlenose whale. On the west coast, the DFO has added an area of hot vents and an undersea volcano — both unique ecosystems with diverse life forms — to its pilot list of protected marine areas.

Although his organization applauds these moves, Laughren says it's important not to overlook "representative" areas of the country's lakes and oceans in the rush to save unique species and environments. The former ecosystems may lack the glamour of whales or the mystery of deep-sea vents, but Roff says they are absolutely vital in maintaining the biodiversity of our oceans.

"If you only conserve unique things, you've probably missed 95 per cent of the rest of nature," he says. "They're beautiful little spots, they may contain rare or endangered species, but they're not representative of nature as a whole."

Looking for an ecologically based, consistent classification scheme that would apply across Canada, WWF Canada went back to Burlington-based Geomatics Inc., whose geographic information system had provided data on Canada's terrestrial habitats. The company in turn pointed the federation to Roff, who has studied the effects of large water masses such as arctic currents or the Gulf Stream on ocean communities.

Developing a comprehensive marine classification scheme that linked physical features with plant and animal habitats appealed to Roff. "That's the kind of marine ecologist I am."

Armed with geophysical data from around Canada's three marine coastlines and throughout the Great Lakes and St. Lawrence River, Roff and Day produced a detailed picture of the underwater landscape, including such features as temperature, salinity, substrate type and slope. Understanding the habitat gives a fairly good idea of what kinds of plants and animals will live there.

"It's not a perfect correlation, but there's sufficiently strong correspondence that you can say what the relationships are," says Roff of his "postal code" system.

Along with Day, a regional environment manager in Australia responsible for part of the Great Barrier Reef World Heritage Area and a former contract consultant in

Canada, Roff has co-written a three-volume report called *Planning for Representative Marine Protected Areas*. The report has been adopted by the WWF for use in research and advocacy for marine protected areas.

Although the federal government is hardly obliged to adopt WWF Canada's approach to marine conservation, Roff and Laughren believe it constitutes a solid ecologically based methodology. Using the classification scheme, governments and agencies could make better decisions about what kinds of activities to allow throughout Canada's waters, based on solid knowledge of marine habitats. Rather than rope off whole stretches of the ocean from human use, policy-makers might use this habitat information for zoning for permitted uses such as fishing or ecotourism.

"The goal is to map out the range of physical habitats that are important for species and provide a set of guidelines for how to choose sites to be protected," says Laughren.

Adds Roff: "We're not left with the never-ending process of wanting to conserve things that people say are unique. You can now fit that into a representative framework."

Parks Canada has used the framework to check data collected earlier for a feasibility study for a proposed marine conservation area in northern Lake Superior. Project manager Gail Jackson says Roff's approach was useful for ensuring her group had mapped the area thoroughly.

Roff will discuss this project later this year as an invited speaker to an international conference in Scotland sponsored by British Natural Heritage.

BY ANDREW VOWLES

IN THE NEWS

Prof. Karen Wendling, Philosophy, was quoted in a March 15 story in the *Ottawa Citizen* on cloned pigs and human transplants.

The HAFA restaurant was the subject of a March 29 Canadian Press article that appeared in the *Toronto Star* and numerous other newspapers. The article quoted instructor Jeff Stewart and several students.

Prof. Michael Ruse, Philosophy, wrote reviews of two books on the human genome and genes, organisms and the environment that appeared in the April 1 edition of the *Globe and Mail*.

Research by Prof. Mike Dixon, Plant Agriculture, on growing

food in outer space was the subject of an April 4 *Toronto Star* article.

Prof. Doug Powell, Plant Agriculture, was quoted in an April 6 article in the *Toronto Star*, commenting on a new American study on the safety of genetically modified food. He was also quoted in a March 21 *Ottawa Citizen* article about lower pesticide use on GM crops.

Prof. Jamie Snell, History, was quoted in an April 6 *National Post* article about Pierre Trudeau's influence on Canada's legal landscape.

Judith Nasby, director of the Macdonald Stewart Art Centre, was quoted in an April 7 *Globe and Mail* story on the expansion of the University of Toronto's art centre.

Chairs Committee Created

Continued from page 1

Prof. François Paré, Languages and Literatures; Prof. Anthony Clarke, chair of the Department of Microbiology; Rudy Putns, executive director for campaign programs; and Prof. Michael Nightingale, dean of the College of Social and Applied Human Sciences.

The most recent news about the Canada Research Chairs Program has clarified that it will support two types of chairs. Tier 1 positions will support seven-year chairs used to retain or attract experienced individuals acknowledged by their peers as international leaders in their research fields. For each Tier 1 chair, universities will receive \$200,000 a year in financial support for the seven-year term. These chairs are renewable indefinitely for the individuals selected.

Five-year Tier 2 positions will retain or attract future research "stars," those acknowledged as having the potential to lead their research fields. For each Tier 2 chair, universities will receive \$100,000 a year for five years. These chairs are

renewable only once.

In addition, for each chair allocated, universities can request a further \$125,000 from the Canada Foundation for Innovation (CFI) for infrastructure support.

Guelph will receive 18 Tier 1 and 20 Tier 2 chairs. The chairs have been allocated by the federal granting councils, and each of the three councils — Medical Research Council (MRC), Natural Sciences and Engineering Research Council (NSERC) and Social Sciences and Humanities Research Council (SSHRC) — must review and approve the chair nominees. Guelph received three chairs under MRC, 30 under NSERC and five under SSHRC.

In terms of share of chairs allocated, U of G placed second among comprehensive universities in Ontario (Waterloo received 47) and second among non-medical universities.

Hallett notes that Guelph would probably have received more chairs had the allocation formula included all research funding at the institution

as opposed to just federal granting council support.

"The approach taken was based on the previous awards success of each university with the three federal granting councils, with greater emphasis being given to the MRC and NSERC and less weight attached to SSHRC. Not surprisingly, then, the allocation of chairs tends to be weighted towards those universities with medical schools."

Six per cent of chairs were allocated automatically to smaller institutions with less than one per cent of funding from the three granting councils.

At the same time that it announced the allocation of chairs, the federal government also announced that Marc Renaud, president of SSHRC, has been appointed the first chair of the Canada Research Chairs Program's steering committee. The program will be administered by MRC, SSHRC, NSERC and CFI through a joint secretariat based at SSHRC.

BY ALEXANDER WOOLEY

BOARD OF GOVERNORS

Continued from page 2

flecting the University's awareness of the total costs facing students at a residentially intensive institution such as Guelph, the budgets contain only modest increases in the cost of residence, meals and books. It was noted that Guelph's five-year average increase in residence costs, including this year's, is 1.6 per cent.

The cost of an annual commuting parking permit will increase by \$10 for 2000/2001 (see story on page 2). Nancy Sullivan, vice-president (finance and administration), noted that, despite the increase, University rates will continue to rank below those of major nearby universities and will be significantly lower than rates charged by the City of Guelph and local hospitals.

In addition, rates at campus meters and attendant pay-as-you-park lots will double. And fines for illegal parking and traffic violations will rise significantly.

B of G also approved the transfer of \$950,000 from the Heritage Fund. Of this, \$450,000 is to be applied to U of G's special capital

account to cover repayment of the costs of academic building projects undertaken in the late 1980s (e.g., the Bovey and Zavitz buildings) and \$500,000 is to be used for one-time start-up funds to support the research of new faculty.

The board gave the go-ahead for U of G to proceed with construction of a new 600-bed townhouse-style student residence on the east side of campus, to be ready for occupancy in September 2001. Site work will begin this summer. (Watch for further details of the construction in an upcoming issue of @Guelph.)

THREE NEW STUDENT GOVERNORS TO BEGIN JULY 1

Recent student elections resulted in three new student appointments to the board. Joining the board July 1 for a one-year term are fourth-year biomedical science student Shawn Cooper, fourth-year environmental sciences and geography student Clélie Murray-Chevrier and Souzan Armstrong, a PhD student in the Department of Chemistry and Biochemistry.

CLASSIFIEDS

FOR SALE

1990 Mercedes Benz 300 SE, four-door full-size sedan, loaded with options, spotless condition, brown with matching interior, 763-0757.

Hot Point self-cleaning oven, almond with black glass, six years old, excellent condition; 20-year extra-firm king-sized mattress, box spring and frame; large six-drawer dresser with mirror; older stove; washer in good working order, will deliver, Jeff, Ext. 8770.

Tiffany light fixture, three-bulb, stained glass with lead; adjustable wall-mount stereo arm with speaker mounts, suitable for compact stereo system, 821-8701 or send e-mail to tedguth@sprint.ca.

ABS river canoe, 16 feet, Kevlar tips, indestructible, send e-mail to jgreuel@uoguelph.ca.

Queen-size futon with frame, almost new; three-piece sectional sofa, brown, 824-3174.

1996 Volkswagen Golf, black, five-door hatchback, five-speed manual, lots of extras, remote starter, winter and summer tires, 69,000 kilometres, dealer-maintained with all records, 824-7579 or send e-mail to pamadon@uoguelph.ca.

101 acres on nature preserve, consisting of 85 acres of maple and mixed bush, 16 acres of hay with pond, spring water, good barn, drive shed with 200 amp, four-piece bath, septic system, drilled well, private, picturesque on paved road near Williamsford, 519-794-0028.

Older pullout couch, good condition, great for cottage, student or family room, 836-9236.

Two Nokia 2160 digital cell phones with belt case, battery chargers plus car battery chargers, Ext. 6665.

Electric organ, needs minor repairs but works, good exterior, best offer, send e-mail to Beth at ethomset@uoguelph.ca.

1987 Starcraft Astrolight hard-top tent trailer, sleeps four, icebox, sink, two-burner stove, Michelle, 836-8875.

CCM men's five-speed bicycle, excellent condition, leave message at 836-3252.

Siamese Kittens, most colours including red and tortiepoint; lilacpoint Balinese kittens, 856-9653.

Handmade wooden clothes dryers, Ext. 6580.

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Quiet, clean furnished bedroom with kitchen to share, linen provided, laundry, basement entrance, park-

ing, non-smoker, no pets, no overnight guests, suitable for visiting student or professor, \$350 a month inclusive, 824-0950.

Five-bedroom house, downtown on express bus route, 9½ months with renewable lease, \$400 per room plus utilities, Elizabeth, 824-9503.

Four-bedroom island cottage on Lake Kashegong, east of Peterborough and west of Havelock, available July 29 to Aug. 12, Linda, 836-9236.

Georgian Bay island cottage overlooking Killbear Provincial Park, all the comforts of home, incredible view, Ken, 822-2125 days and 822-7705 evenings.

Spacious basement bachelor apartment, full kitchen, bath, private entrance, downtown neighbourhood, 30-minute walk to campus, on-street parking, non-smokers, no pets, \$500 a month plus utilities furnished, \$469 a month plus utilities unfurnished, Susan, 836-9877.

Unfurnished basement apartment in new condo in south end, private three-piece bath, shared kitchen and entrance, laundry, on bus route, close to campus, non-smokers, no pets, suitable for working professional or mature student, available July 1, \$500 a month inclusive, 836-5907.

Furnished two-bedroom, two-bath holiday home in South of France (Antibes/French Riviera), small garden, available weekly and monthly, Nicole, 836-6745 or send e-mail to fmoll@webtv.net.

Two-bedroom water-view cottage, four miles north of Sauble Beach, large living room, eat-in kitchen, TV and VCR, propane barbecue, non-smokers, no pets, adults only, suitable for four, \$450 a week, 763-1236.

Furnished four-bedroom executive home in south end for short-term accommodation, quiet neighbourhood, deck, barbecue, central vac and air, 24-hour security, Internet connection, non-smokers, no pets, available July 1 to Aug. 30, \$2,000 a month, Carol, 8230-1857 or 362-1857.

WANTED

Dragon Boat participants needed for U of G team for three races June 3 and 4, Bruce, Ext. 2122.

Country home to rent within 30 minutes of Guelph for equine veterinarian couple, nice home near Guelph would also be considered, 612-625-6248 days, 612-331-3242 evenings or send e-mail to radc1005@tc.umn.edu.

Furnished one-bedroom bachelor apartment or self-contained suite for scientist visiting the University, within 15-minute walk to campus, laundry, parking, Sept. 1 to Aug. 30,

2001, Paul, 204-729-8957 or send e-mail to pmcaughey@cm.agr.ca.

Country home with reasonable rent for mature, responsible woman and well-behaved animals, 30 years in present house, non-smoker, 856-9653.

Spanish tutor for one month, rate negotiable, Laura, Ext. 2436 or send e-mail to thomasl@uoguelph.ca.

Full-time caregiver for three children in my home in Elora, start immediately and continue through summer, hours and pay to be negotiated, Jennifer, 743-4078 or 846-8457.

Used golf clubs for beginner, Norma, Ext. 3605.

Bachelor or one-bedroom apartment within walking distance of campus for grad student with small, well-trained dog, needed Aug. 1, Cindy or Jon, 780-488-7280 or send e-mail to lilybah@telusplanet.net.

Unfurnished bachelor apartment for non-smoking female, close to campus, parking, Aug. 1, send e-mail to rellic@bmts.com.

Room for fall semester, Brenda, 519-269-3527 or send e-mail to bnoble@uoguelph.ca.

Furnished or semi-furnished accommodation for new faculty member from July 2000 to July 2001, Romita, 403-247-4198 or send e-mail to rchoudhury@MtRoyal.AB.ca.

Two-bedroom house or apartment for professional couple, downtown or south end of Guelph, laundry, parking, Ext. 3548 or 824-2104.

One-bedroom or bachelor apartment for quiet fourth-year female student, within 20-minute walk of campus, laundry, non-smoker, no pets, parking required, September to April 2001, Emily, 836-9182.

AVAILABLE

House and car swap in Victoria, B.C., three-bedroom house, quiet street, minutes from sea and downtown, all appliances, two resident cats, 15 minutes to University, suitable for single or couple, non-smoker, available September or October, send e-mail to jimhowe@coastnet.com.

Care for your dog in my home while you travel, Cobi, 836-8086 or send e-mail to cedmerrers@uoguelph.ca.

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ARBORETUM

Naturalist Chris Earley presents a workshop on sparrows May 30 from 9 a.m. to 4 p.m. at the Arboretum. Cost is \$45. Registration and payment are required by May 15. To register, call Ext. 3110.

Horticulturist Henry Kock leads a botanical history walk June 5 and 7 from 7 to 9 p.m. at the Arboretum. Cost of each session is \$15. Registration and payment are required by May 22.

Artist Barbara Guy Long leads a workshop on "Willow Wattle Weave — Level II" June 8 from 9:30 a.m. to 4:30 p.m. Cost is \$99 (includes \$60 for materials). Registration and payment are required by May 25.

NOTICES

More than 500 students from 23 high schools across Ontario will be attending the 32nd annual Ontario Student Classics Conference May 12 to 14 at U of G. Saturday events include art displays in the MacKinnon building foyer, a chariot race at 4 p.m. at Alumni Stadium, skits at 10 a.m. and 1 p.m. in War Memorial Hall, athletic competitions all day and a costume parade at 5:15 p.m. on Johnston Green.

The Stress Management and High Performance Clinic will offer a stress management program beginning May 23. The one-hour classes meet Tuesdays and Thursdays at 8 p.m. in UC 442. Cost is \$40 for U of G students, \$60 for UGSA members and \$120 for others. The clinic is also

offering a "Better Sleep Program" Tuesdays at 5:30 p.m. in UC 103, beginning May 30. Cost is \$50 general, \$20 for U of G students. For more information, visit the Web site www.uoguelph/~ksomers or leave a message at Ext. 2662.

Maurice LePage of the Canadian International Development Agency's (CIDA) contracting and management division will offer a session on writing successful CIDA proposals May 15 from noon to 2 p.m. at Deloitte Touche in Guelph. Interested U of G faculty and staff are invited to attend. For more information, call Jane Hudson at 822-2000.

Overweight men between the ages of 19 and 34 are needed for a weight-loss study to be conducted by Prof. Terry Graham, Human Biology and Nutritional Sciences. The 12-week nutrition and exercise intervention will run from May to September. For more information, call Ext. 3278 or send e-mail to research_s@hotmail.com.

Retired sociology professor Dick Carlton invites members of the University community to attend a May 14 tea, where he will present copies of his new book, an account of his six-month bicycle tour of Europe and the Middle East. The tea runs from 1 to 5 p.m. at 40 Albert St.

SEMINARS

"Adding Soy for Health" is the topic of dietitian Heidi Smith May 11 at 6:30 p.m. at the Health and Performance Centre. Cost is \$15. Register at Ext. 3254.

The Department of Microbiology presents the Craig Campbell Memorial Lecture, with Bonnie Bassler of Princeton University discussing "How Bacteria Talk to Each Other: Regulation of Gene Expression by Quorum Sensing" May 16 at 10:30 a.m. in OVC 1715.

TEACHING SUPPORT

Teaching Support Services presents its annual conference May 25, focusing on learner-centredness. Running from 8:30 a.m. to 4:30 p.m. in the OVC Learning Centre, the conference features keynote speakers, workshops, panel discussions and presentations. For details, visit the Web site www.tss.uoguelph.ca.

THESIS DEFENCES

The final examination of M.Sc. candidate Nan Tang, Food Science, is May 15 at 1:30 p.m. in Food Science 128. The thesis is "Characterization of *Campylobacter jejuni* Growth, Survival and Biofilm Formation Using Conventional and Molecular Methods." The adviser is Prof. Heidi Schraft.

The final examination of M.Sc. candidate Christoph Wand, Animal and Poultry Science, is May 17 at 9 a.m. in Animal Science and Nutrition 141. The thesis is "Stockpiled Perennial Pasture for Extending the Grazing Season in Ontario Cow-Calf Beef Operations." The adviser is Prof. Jock Buchanan-Smith.

The final examination of Longyang Wu, a PhD candidate in the Department of Animal and Poultry Science,

is May 25 at 9 a.m. in Animal Science and Nutrition 141. The thesis is "Comparison of Methods for Modifying Animal Model Solutions to Reduce Inbreeding and Maintain Genetic Variance in a Finite Population." The adviser is Prof. Larry Schaeffer.

The final oral examination of Christine Alksnis, a PhD candidate in the Department of Psychology, is June 6 at 10 a.m. in MacKinnon 132. The thesis is "Sexism, Stereotyping and the Gender Wage Gap." The adviser is Prof. Serge Desmarais.

COMMUNITY EVENTS

The Ontario Public Interest Group (OPIRG) celebrates Environment Week by holding its 21st annual Speed River Cleanup June 3, beginning at 9:30 a.m. at Royal City Park across from the Boathouse. An appreciation event for participants runs from 11 a.m. to 3 p.m. at McCrae House, featuring a barbecue, music and displays. OPIRG is also offering tours of the Speed River watershed June 3 from 1:30 to 5 p.m. Environment Week events also include a community appreciation night June 1 starting at 8 p.m. at the Boathouse and a clean air festival June 7. For more information, call 824-2091.

The third annual "Discover Guelph: Be a Tourist in Your Own Town" runs May 13 from 10 a.m. to 4 p.m., offering participants an opportunity to discover art, history, performance, nature and much more in the city of Guelph. Venues include the Macdonald Stewart Art Centre,

Guelph Museums, the Boathouse, Riverside Park and Guelph Farmers' Market. Downtown Guelph will feature musical performances. Guelph Arts Council will offer horse-drawn trolley rides and will showcase local artisans and storytellers in the Guelph Centre. A passport for the day is \$5 and can be purchased at any of the venues.

The 2000 Guelph Spring Festival opens with a gala May 26 at 8 p.m. at the River Run Centre and continues to June 4, featuring chamber and classical music, jazz and community events, including a free streetfest May 27 from 11 a.m. to 4 p.m. in downtown Guelph. For event tickets and information, call 763-3000.

Guelph Services for the Physically Disabled celebrates its 25th anniversary with an open house May 25 from 4 to 7 p.m. at the River Run Centre. Everyone is welcome.

The Guelph School of Music will offer a music day camp called "Sound of Nature/Nature of Sound" for children aged six to 11 this summer. It runs July 10 to 14 from 9 a.m. to 3:30 p.m. at the Christian Church of Guelph. Campers will create an original musical production, to be performed July 14 at 7:30 p.m. No musical background is necessary. For more information, call 763-4181 or send e-mail to jbsm@golden.net.

Victory Public School will hold its annual fund-raising dessert party and fun fair May 25 from 5:30 to 8 p.m. at 135 Exhibition St. The event features a silent auction, dollar table, raffle, crafts and baked goods.

Teamwork, Communication Important Part of Program

Continued from page 1

co-op placements this fall.

"Courses in our degree come from almost every college in the University," Moss says. Those courses are offered by individual departments or jointly. For example, environmental monitoring and analysis is offered jointly with the departments of Physics and Chemistry and Biochemistry. The environmental economics and policy major is a joint offering of the departments of Economics and Agricultural Economics and Business.

Currently, the most popular major is earth and atmospheric science. Moss has also seen steady growth in environmental economics and public policy and in environmetrics, a specialization unique to Guelph that applies mathematics topics such as risk analysis and modelling to environmental problems.

Within FES programs, one of the most important courses is not an environmental or science offering but a second-year course in decision-making and communications taught

by Hilt. "We take it for granted that our graduates know the science," he says, "but they also need to have teamwork, communication and problem-solving skills."

A fourth-year project course teams up students from among all eight majors on a two-semester study project. Student groups have worked as "consulting companies" for such off-campus clients as Credit Valley Conservation and the International Joint Commission for the Great Lakes.

Besides co-op programs, the faculty offers exchange programs that see students spend one or two semesters abroad in equivalent departments at one of nine universities in the United States, the United Kingdom and Australia. Moss hopes to see internship programs develop abroad, in which students would follow up their academic semester with a second semester spent working in the other country.

FES is also linked with universities in the United States and Mexico

through a federally funded program called Watershed Planning: Developing Sustainable Strategies. Under this program, connected to the North American Free Trade Agreement, all three federal governments provide funding to allow graduate students to conduct field research or community work in a partner country. Currently, three Mexican students are studying at Guelph.

Moss says there's increased demand for experts on the environmental implications of global trade, no surprise to anyone who followed the progress of the aborted World Trade Organization talks last fall.

About 40 per cent of the faculty's graduates find jobs in business and industry or government agencies. The same proportion continues related post-graduate degree or diploma studies.

A graduate of the natural resources management major, for example, might land a job with an environmental consulting firm or with a conservation agency. Gradu-

ates with an environmetrics degree might conduct environmental analysis with industry.

Moss would like to see a number of changes or developments, including a master's program in environmental sciences, perhaps offered as intensive short courses for people already working in industry and government. "There is a great demand for interdisciplinary graduate programs in environmental sciences, particularly when they involve re-training of science graduates."

He's also investigating ways to involve more faculty in core research and teaching in FES. "The Environmental Sciences Council has proposed a series of joint appointments between the Faculty of Environmental Sciences and other departments." (The council includes chairs of the 12 departments hooked into the program; a parallel program committee consists of faculty members from those units).

Besides FES itself, Blackwood Hall is home to several interdisciplinary

research initiatives involving environmental sciences, particularly the Computing Research Laboratory for the Environment. Run by principal investigator Prof. David Swayne, Computing and Information Science, the lab brings computational science to bear on complex, data-heavy environmental problems.

Among other projects, he has:

- used expert systems to model the effects of acid rain on Canadian lakes, the sources of various long-distance air pollutants or sediment transport in watersheds;
- used computer science tools — or informatics — in environmental decision support systems;
- conducted data mining, used to extract valuable information from a welter of environmental statistics; and
- created software for environmental decision-makers, including a project on sustainable community indicators to be used by municipalities.

BY ANDREW VOWLES



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Child-Care Programs at Risk, Says New Study

Low salary most common reason for leaving the field

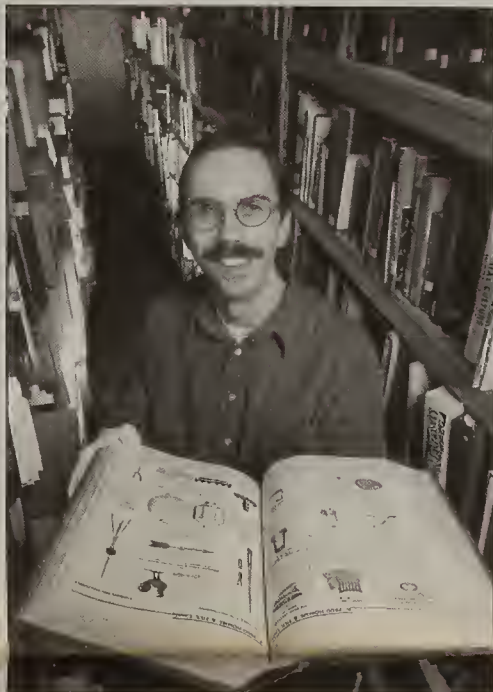
CANADA'S QUALITY child-care programs are at risk, says a nationwide study of centre-based child care published this month by U of G's Centre for Families, Work and Well-Being.

You Bet I Care! found that child-care centres face a shortage of skilled teachers, and many are in precarious financial shape. This has serious implications for children's development, the ability of parents to participate in the paid workforce and economic productivity.

The study was partially designed to replicate a 1991 study of wages and working conditions in centre-based care and to add more information about centres and the children who attend them.

Prof. Donna Lero, Family Relations and Applied Nutrition, co-director of the Centre for Families, Work and Well-Being and one of the study's five principal researchers, found with her colleagues that child-care teachers are more highly educated than in 1991, with the majority having a two- or three-year diploma in early childhood education or a related field. Despite their education and the important role

Continued on page 10



Library assistant Bob Watson is overseeing the task of cataloging the Rural Heritage Collection. PHOTO BY MARTIN SCHWALBE

Rural Heritage Collection Finds A New Home

Agricultural memorabilia, books, photographs, records transferred from Ontario Farm Museum

A UNIQUE CANADIAN collection of agricultural memorabilia, books, farm machinery manuals, photographs, films and corporate records has found a new home at U of G.

The Rural Heritage Collection, which was transferred from the Ontario Farm Museum in Milton, contains more than 6,000 books, 800 films and 150,000 photos, as well as extensive corporate records from agricultural companies and odd personal collections, including general-store records and historical newspaper clippings.

An official launch of the collection will be held June 16 during Alumni Weekend.

"The collection was amassed over many years and represents an amazing range of materials, from the Massey Harris archives to memorabilia of individual pioneer farming families in Ontario," says Bernard Katz, head of special collections and

library development in the U of G Library. "The potential use of the Rural Heritage Collection is limitless, and its importance to historians, sociologists, genealogists and economists is beyond question."

The Ontario Agricultural College Alumni Foundation was instrumental in funding the transfer of the collection to Guelph last year by the Ontario Ministry of Agriculture, Food and Rural Affairs. Over the next two years, the collection will be catalogued with the initial assistance of a \$100,000 endowment funded by 1936 OAC graduate Bill Tolton, the OAC Alumni Foundation, private charitable foundations, the OAC dean's office and the library.

Once archived, the collection will be made available to scholars and historians interested in rural and agricultural history. It will also be accessible and searchable on the Internet through the library's

Continued on page 10

Two Candidates for VP (Research) Give Public Talks

Members of University community invited to submit comments to search committee by June 16

THE SEARCH COMMITTEE for the position of vice-president (research) has short-listed two candidates — Dr. John Carey, executive director of the National Water Research Institute, and Dr. Nils Petersen, associate vice-president (research) at the University of Western Ontario.

Committee chair president Mordechai Rozanski invites members of the University community to meet the final candidates in public forums scheduled for June 6 and 7. Each candidate will present a public lecture on the key challenges facing university-based research in Canada over the next five to 10 years. Following each lecture, the candidate will be available for questions and discussion.

Both lectures will be held in Room 1714 of OVC's Lifetime Learning Centre, with Dr. Petersen speaking June 6 at 10 a.m. and Dr. Carey speaking June 7 at 10:15 a.m.

Dr. Carey, an adjunct professor with U of G's Department of Environmental Biology, has been executive director of the National Water Research Institute since 1996. The institute, an Environment Canada research operation, conducts a broad research program in aquatic sciences in partnership with Canadian and international science communities, providing scientific knowledge that supports the development of government policies and programs concerning freshwater ecosystems.

Dr. Carey earned his B.Sc. and M.Sc. in chemistry from the University of Windsor and his PhD from Carleton. His research interests include the environmental dynamics of organic pollutants in surface waters, photochemical processes in natural waters, and advanced oxidation processes for waste-water treatment.

Dr. Petersen, a professor of chemistry and biochemistry at the University of Western Ontario, has served as the university's associate dean of graduate studies, chair of the chemistry department and, most recently, associate vice-president (research).

He earned his B.Sc. in chemistry from Western and his PhD at the

California Institute of Technology. His research involves studies of the dynamics and distribution of molecules in biological membranes, focusing on the application of modern fluorescence microscopy and imaging techniques.

He has also served on Natural Sciences and Engineering Research Council grant selection committees and on Canada Foundation for Innovation multidisciplinary assessment committees.

Full CVs for the candidates are available at the reserve section of the U of G Library.

Members of the University community are encouraged to attend both candidates' lectures and to provide written comments to the search committee. Comments must be received by June 16 and should be submitted to the president by e-mail at search@exec.admin.uoguelph.ca or by letter directed to the Office of the President.

All e-mail comments must identify the writer, and letters must be signed. Anonymous comments will not be reviewed. Comments will be shared with the search committee in full and will be held in strict confidence.

The candidates will also be meeting with the Vice-President Academic's Council, faculty and staff who report directly to the vice-president (research), members of the Graduate Students' Association, graduate program co-ordinators, and members of Senate's Research Board and Board of Graduate Studies, all of whom will be invited to provide comments to the search committee.

In addition to the president, members of the search committee are Ontario Agricultural College dean Rob McLaughlin; graduate studies dean Isobel Heathcote; Prof. Fred Evers, Department of Sociology and Anthropology; Prof. Patricia Shewen, chair of the Department of Pathobiology; Prof. Alan Wildeman, Department of Molecular Biology and Genetics; graduate student James Rodgers, Department of Chemistry and Biochemistry and School of Engineering; and Tracy Alberico, senior adviser in employee relations, Human Resources.

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SENATE REPORT

U of G Performance Indicators Released This Month

AT THE MAY 9 MEETING of Senate, president Mordechai Rozanski presented an overview of the May 2 provincial budget announcement and its impact on Ontario universities and reported that U of G has been allocated 38 chairs under the Canada Research Chairs Program. (See the May 10 issue of @Guelph for details on the budget and the research chairs.)

The president informed Senate that, on the basis of U of G performance indicators released this month, Guelph expects to do well in terms of the provincial

government's performance funding allocation mechanism and may well place in the highest funding tier in all three categories (graduation rates, employment rates six months after graduation and employment rates two years after graduation). Most notably, the University's graduation rate has improved substantially this year over last, he said. (For more information about U of G's performance indicators, visit the Web site www.uoguelph.ca/mediare/00-05-09/perform.html.)

Rozanski stressed, however, that although Guelph has done well, he does not believe the government's performance indicators are the best indicators of the quality of a university or a fair reflection of its mission.

In addition, institutional planning for the future is made very uncertain because funding tied to these indicators changes from year to year and is thus unpredictable, he said. A variety of factors such as the economy, regional differences and student interest in graduate studies or areas of service can affect job placement performance, which will change funding levels each year.

The most important point is the need for stable operating funding so that base budget needs such as hiring of new faculty are accommodated, he said.

Rozanski also discussed his views and concerns about recently announced provincial policy changes that would allow the establishment of private degree-granting institutions in Ontario and would allow colleges of applied arts and technology to offer applied degrees on a pilot basis.

He said that although he doesn't object to competition and providing students with choice, he doesn't believe private universities are the best way to respond to the three priority issues facing Ontario's public

universities — funding to restore quality, accessibility and the double cohort. He said he's particularly concerned about any initiative that will divert attention or resources from the pressing issue of providing operating funds to public universities.

ALEXANDER REAPPOINTED FOR FOURTH TERM

The president reported that Chancellor Lincoln Alexander has accepted the University's invitation to serve an additional term of office, beginning Nov. 1, 2000. This will be the fourth term for Alexander, who first became chancellor in 1991. His reappointment was approved unanimously at the April meeting of Senate.

BACHELOR OF COMPUTING APPROVED FOR FALL 2001

Senate approved a new bachelor of computing program to begin in fall 2001. The program is designed to help deal with the growing interest in computing science and the anticipated increase in enrolment, said Prof. Steve Scadding, chair of the Board of Undergraduate Studies.

Prof. Deb Stacey, Computing and Information Science, said the department is looking to move towards professional accreditation for the degree program, and logisti-

cally, it will be easier to accredit one degree than two (U of G currently offers both a BA and B.Sc. in computing). At the request of students, however, the department has agreed to continue the BA and B.Sc. programs if student interest remains high.

Senate also reviewed a proposal for an executive MMS program with a full cost-recovery fee in the School of Hotel and Food Administration. The program's content is the same as that of the regular program, but it is designed for learners who are advanced in their careers, unable to attend a regular program at U of G and willing to pay to learn quickly at an advanced level. The proposal to institute a full cost-recovery fee now goes to Board of Governors.

RESOURCE ALLOCATION MODEL PRESENTED

Following the regular meeting of Senate, provost Iain Campbell gave a presentation on the resource allocation model that has been developed by VPAC.

SENATE TO MEET JUNE 20

Senate, normally held on the second Tuesday of the month, will meet on the third Tuesday next month — June 20 — to accommodate spring convocation, which runs from June 13 to 16.

No Compelling Reason to Merge CPES and CBS, Task Group Says

THE TASK GROUP charged with examining the future of the College of Biological Science and the College of Physical and Engineering Science has submitted its report to provost Iain Campbell. The principal finding of the group is that there is no compelling reason to further consider a merger between the two colleges at this time.

This winter, Campbell and the

president invited the colleges to consider their futures, including a possible merger. It was considered an opportune time to discuss these issues because CPES dean Bob McCrindle retires this summer and CBS dean Bob Sheath has decided not to seek a second term and will return to teaching and research.

As a result of the task group's finding, the suspended search for a

new dean of CPES will be brought to a conclusion, with the objective of making an appointment as early as possible, says Campbell. The short list will be announced soon.

In addition, the search for a new CBS dean will be launched with the creation of a search committee. In the meantime, Sheath has agreed to continue in the position until April 30, 2001.

Editor Barbara Chance bchance@exec.admin.uoguelph.ca Design Peter Enneson Layout Linda Graham lgraham@exec.admin.uoguelph.ca Advertising Brian Downey bdowney@exec.admin.uoguelph.ca Director Darlene Frampton darlene@exec.admin.uoguelph.ca	@Guelph is published every two weeks by Communications and Public Affairs, Level 4, University Centre, University of Guelph, Guelph, Ontario N1G 2W1. Inquiries: 519-824-4120; Editorial: Ext. 6580; Distribution: Ext. 8707; Advertising: Ext. 6665; www.uoguelph.ca/~webadmin/ADGUIDE/ Classifieds: Ext. 6581; Fax: 519-824-7962; Web site: www.uoguelph.ca/atguelph	Articles may be reprinted with credit to @Guelph Subscriptions \$44 (includes GST); \$51 outside Canada ISSN 08364478 @ 1998 Printed on recycled paper UNIVERSITY GUELPH
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NOMINEES SOUGHT FOR BOARD SEAT

Board of Governors is calling for nominations for the one staff/alumnus seat on the board, to serve a three-year term beginning July 1. Candidates must be full-time, permanent non-teaching staff members who are also graduates of U of G. Nominations can be made by any full-time, permanent non-teaching staff member. Nominations must be submitted by June 1 at 4 p.m. to the Board Secretariat on Level 4 of the University Centre. The election will be conducted through campus mail. To obtain nomination forms, call Annette Blok at Ext. 6571.

WORK ON GORDON STREET BRIDGE TO BEGIN IN JULY

The Gordon Street bridge over the Speed River will be reconstructed this summer, cutting off bridge access for about 16 weeks. According to the city engineering office, the bridge will be closed in early July, with construction to get under way in the first half of the month. Work on the site won't begin until after July 1 to allow time for fish in the Speed River to spawn. A temporary river overpass for pedestrians and bicyclists will be erected a short distance from Gordon Street, but vehicular traffic will be rerouted to Edinburgh and Victoria roads. Downtown buses travelling to and from the University will be rerouted to either Water Street or College Street, depending on the extent of the bridge construction. Guelph Transit says bus routes will be finalized in early July.

STEWARDSHIP FOCUS OF NATIONAL CONFERENCE

U of G will host the conference "Caring for Our Land and Water: Stewardship and Conservation in Canada" June 3 to 6. The conference is sponsored in part by the Department of Land Resource Science and is intended to strengthen and sustain efforts in land protection and securement. Themes include land trusts and community groups in conservation, working with private landowners, stewardship policies and programs, legislative and securement tools, building networks and partnerships and sustaining organizations. For more information, call Prof. Stewart Hills at Ext. 2702 or visit the Web site www.uoguelph.ca/~claws/conference.

COME INTO THEIR GARDENS

The volunteers of Macdonald Stewart Art Centre present Gardenscapes 2000, a self-guided tour of Guelph gardens, June 18 from noon to 5 p.m. Five gardens will be featured on the tour, including those of Prof. Terry Crowley, History, and Profs. Tom and Jane Funk, Agricultural Economics and Business. Tickets are \$8 general, \$3 for children, and are available at the art centre, the Framing and Art Centre, Royal City Nursery and Coach House Florists.

Ewan's Tartan Weaves Ancestry With Scholarship

Historian receives international recognition for Scottish studies work

HISTORY PROFESSOR Elizabeth Ewan confesses to having been party to dozens of Scottish flings in her younger years, but these days her attention is focused more on female brewers in medieval Scotland than on the dance preferred by Highland military regiments.

Ewan is one of only two historians in the world known to have done research on the critical role women played in Scotland's early brewing industry. It was home brewing in medieval times — an industry that was dominated by women and so important to Scottish communities that town councils devoted many of their laws to its regulation and sale.

Ewan says the colourful lives of Scottish brewers have been popular fodder for her community speaking engagements, but that's just one part of a larger body of research on women in medieval Scotland that has earned her international recognition from the British Royal Historical Society. She will travel to University College London in July to receive the society's David Berry Prize for an article she wrote on defecation and gender in late medieval Scotland. This article is part of a new project that looks at the insults used by medieval women and men against each other.

Provost Iain Campbell congratulates Ewan. "This is a well-deserved and prestigious recognition of an outstanding faculty member and also reflects the depth of scholarship in our very strong Scottish studies group at U of G," he says.

Prof. Jamie Snell, chair of the Department of History, says Ewan's talents are crucial to the interdisciplinary graduate program, which has traditionally relied on the department for major faculty support.

The Scottish studies program was established in 1968 by U of G's first history chair, Prof. Stanford Reid. "Today, the program is a major strength in our department and a well-established and well-recognized niche in the College of Arts," says Snell.

Scottish studies currently has 12 students engaged in master's and PhD studies that involve the disciplines of history, English, music, philosophy, art history, land resource science and geography. The program is managed by an interdisciplinary faculty committee and draws additional support from graduate faculty at several Scottish universities and institutions.

"Academics around the world send their students to Guelph for graduate work in Scottish studies because of the quality of our academic program and our library collection of Scottish material," says Snell. "Both are unequalled in North America."

Guelph's reputation also brought Ewan here in 1988, but the Highland fling and the sailor's hornpipe surely played a role. Both of her parents are Scottish, and she was still performing and teaching Highland dancing



Prof. Elizabeth Ewan forms a trio of Scots with Ed Stewart, left, chair of the Toronto-based Scottish Studies Foundation, and Lynton "Red" Wilson, chair of CAE Inc., at the foundation's annual Tartan Dinner in April. Wilson was named Scot of the Year in recognition of his contributions to Canadian business, society and education.

PHOTO BY MCKENZIE/DARG PHOTOGRAPHY

when she began undergraduate studies at Queen's University. But she says it was a study-abroad program at St. Andrews University in Fife that turned her Scottish ancestry into a career path. She earned a PhD at Edinburgh University and taught history at the universities of Western Ontario and Victoria before coming to Guelph.

In addition to teaching here, she has also supervised or served on the graduate committees of 22 of the program's 74 alumni and is about to publish her third book dealing with everyday life in early Scottish communities. *Townswomen in Medieval Scotland* will cover the period 1450 to 1530. It follows the 1990 publication of *Townlife in 14th-Century Scotland* and a 1999 book called *Women in Scotland*, which covered the period 1100 to 1750 and was co-edited with Maureen Meikle of Sunderland, England.

International collaboration is also an important element in Ewan's efforts to compile an online *Scottish Women's History Bibliography*. Linked to the U of G Web site at www.uoguelph.ca/~ewan/scots-women, it's a list of primary and secondary resources that cover the subject from medieval times to the 20th century.

In addition, Ewan is just beginning a relationship with U.S. mystery writer Candace Robb as historical adviser for a new series of novels set in medieval Scotland.

"Projects like this can be very effective in reaching out to people and

stimulating an interest in Scottish history and culture," she says.

Guelph's Scottish studies program has a focus on community outreach. Faculty and students often speak off campus and participate in cultural and heritage events. They also produce a scholarly journal called *Scottish Tradition*, host an annual colloquium and maintain a Scottish Studies office — all supported financially by the Toronto-based Scottish Studies Foundation.

The foundation was established by a group of Canadian Scots in 1985, primarily to support Guelph's Scottish studies program and its library collection of Scottish material. The latter is an international drawing card for U of G and the primary reason why Guelph "is the best place in North America to do Scottish history work," says Ewan.

The foundation also provides graduate scholarships and is currently raising funds to endow an academic chair in Scottish studies. The proposed chair would be a first in North America, says Snell, and the scholar hired to fill the position would focus on outreach activities, travelling widely to attend Scottish events, lecture and strengthen initiatives in all areas of Canada where there is a significant population with Scottish ancestry.

That takes in a lot of Canada, says Ewan. "So many Canadians have a relationship with Scotland that there is growing interest in our Scottish heritage all across the country."

BY MARY DICKIESON

PEOPLE

REGISTRAR TO CHAIR OCUA

Registrar Chuck Cunningham has been named chair of the Ontario Universities' Council on Admissions (OCUA) for a two-year term. OCUA considers all undergraduate admissions questions that are of joint concern to Ontario universities and advises the Council of Ontario Universities.

CO-OP STUDENT RECEIVES HONOURABLE MENTION

Jeff Ramlogan, a co-op microbiology student and Board of Governors member who was named U of G's 1999/2000 co-operative student of the year, is one of four students nationwide to receive an honourable mention from the Canadian Association for Co-operative Education's selection committee for the 1999 Co-op Student of the Year Award. Twenty-three students were nominated for the award from the approximately 68,000 co-op students across the country.

GRAD STUDENTS RECOGNIZED

Four graduate students in the Department of Zoology won awards at the recent meeting of the Canadian Society of Zoologists in St. Andrews, N.B. M.Sc. student Natasha Erick won the William S. Hoar Award for best oral presentation. PhD student Jason Bystriansky received the Helen Battle Award for best poster presentation. M.Sc. student Mark Freeman won the George Holeyton Award for best poster demonstrating an innovative technique in the comparative physiology and biochemistry section. M.Sc. student Emily Gonzalez won the Cas Lindsey Award for best presentation in the ecology/evolution section.

POET TO READ

Karen Houle, a PhD candidate in the Department of Philosophy and an instructor in philosophy and women's studies, will read from her first book of poetry, *Ballast*, May 28 at 7 p.m. in the Bookshelf E-bar. *Ballast* was recently published by Anansi Press.

NIGHTINGALE FOCUS OF TALK

Prof. Lynn McDonald, Sociology and Anthropology, has returned from a sabbatical leave in the United Kingdom. In April, she spoke on the *Collected Works of Florence Nightingale* at a seminar on the history of nursing held at Southbank University in London.

PRESENTATION EXPLORES FEMINIST MEMORIALIZING

Members of the Cultural Memory Project (a partnership between the Centre for Cultural Studies and Guelph-Wellington Women in Crisis) recently participated in a presentation at the University of Toronto titled "Feminist Memorializing: Remembering Women Murdered — Demanding an End to Violence Against All Women." Project members spoke on discourses figuring within the inscriptions of six memorials that address violence against women.

Families Are Important Agents of Change

Colombian university program aims to empower families in South America

EMPOWERING South American families to make decisions that enhance income, relationships and gender equality — while maintaining a deep respect for tradition — is the goal of an innovative family development program created with U of G help.

University professor emerita Nora Cebotarev, Sociology and Anthropology, worked with faculty members at the University of Caldas in Colombia to develop the program, which has flourished since its conception in 1984. The program was initiated by Colombia native Dalia Restrepo, who served as director for more than seven years. It recently expanded to include a two-year master's program that complements a four-year undergraduate program at the University of Caldas.

"Families need support from their community," says Cebotarev. "This program addresses this need and provides valuable resources for Colombian families and communities."

In 1982, the University of Caldas received a planning grant and conducted an analysis of existing development programs. Results revealed adequate programming in areas such as agriculture and community, but nothing devoted specifically to families.

To address this gap, Cebotarev and Colombian faculty members collaborated to create a four-year multidisciplinary curriculum for training family development agents. The curriculum includes social science, agriculture and economics courses, and encourages students to integrate and apply their knowledge in a three-year field placement called integrated practice. Students are expected to develop and maintain a relationship and interact with a family throughout their undergraduate program. A one-semester full-time placement with existing agencies and institutions completes the program.

Field placement work with the families is based on the principle that children must learn democracy in the home to support a democratic society, says Cebotarev. Teams of students and families work together and examine the current organization of the family to determine if a



University professor emerita Nora Cebotarev, left, and Dalia Restrepo have helped establish a family development program in Colombia.

PHOTO BY MARTIN SCHWALBE

healthy and beneficial situation exists, and to explore alternatives and how it can be maintained or improved. The way family members treat each other is explored and reflected on, and issues such as gender equality in particular are addressed and encouraged.

The issue of gender equality needs to be broached carefully to prevent family members from feeling threatened or criticized, says Cebotarev. To do this, families are encouraged to think of ways gender equality could improve the family system.

She says families are usually responsive and willing to explore alternatives. Tradition is deeply

rooted in Colombian culture, but it's usually helpful for families to reflect on their communication patterns and ask themselves if change would be beneficial.

"It is important to help families realize that they can be agents of change," she says. "It is very empowering for them."

Families are also encouraged to access various community services that can help them improve income, health care and overall quality of living.

This research was sponsored by the Canadian International Development Agency.

BY MARIANNE CLARK
OFFICE OF RESEARCH

Sociologist Remembered

THE LATE Prof. Sid Gilbert, Sociology and Anthropology, was honoured this month for his contributions to education and to the CareerOwl Project (an Internet employment exchange for Canadian graduates) by being inducted as the first CareerOwl Institute Research Fellow.

The induction took place in Ottawa during the conference "Creat-

ing Canada's Advantage in an Information Age," which was sponsored by the Canadian Employment Research Forum and the Institute for Research in Public Policy.

A token of gratitude for Gilbert's work was presented to his wife, Beverly, by Paul Davenport, president of the University of Western Ontario. U of G economics professor Louis Christofides gave a memorial

speech, noting Gilbert's love of teaching and research.

In noting the induction and Gilbert's contributions to current understanding of accessibility and the lifetime benefits of higher education, Prof. Ron Hinch, chair of the Department of Sociology and Anthropology, said: "As a scholar, his impact will be felt by many who will never have known him."

Gosling Wildlife Gardens to Grow

Founders donate \$50,000 towards future development

THE ARBORETUM'S Gosling Wildlife Gardens are growing in more ways than one.

The gardens' founders, Philip and Jean Gosling, have donated \$50,000 towards a future development that will see the gardens expand more than eightfold over the next three years. The \$50,000 gift is just the beginning of what Arboretum director Prof. Alan Watson anticipates will be a more than \$2-million fund-raising project.

"Obviously, I'm thrilled by the gift and the plans to expand the gardens," he says. "It's going to change in a positive way the Arboretum and the way people use it."

The Gosling Wildlife Gardens were created in 1989 after an initial donation from the Gosling family. "It wouldn't have happened without their support," Watson says. "The gardens were among the first wildlife gardens in Canada and became a blueprint for similar projects throughout the country."

The Gosling Wildlife Gardens include five gardens on the scale of urban and suburban backyards: the Butterfly, Moth and Hummingbird Garden; the Lawn; the Prairie Garden; the Suburban Garden; and the Small City Garden. They include trees, shrubs and herbaceous plants that provide food and cover for wildlife, and are intended to motivate visitors to do similar plantings in their own backyards to increase

the diversity of habitats and wildlife species.

The expansion will link other collections in the Arboretum to the Gosling Wildlife Gardens, including the wild goose pond area, gravel pit rehabilitation, gene bank and native trees of Ontario collections, as well as the Japanese and English gardens and interpretive and visitors' centres.

The Goslings have committed to providing additional substantial donations throughout the project and intend to help the Arboretum seek other donations to fund the expansion.

"The Goslings have always been role models for other donors, and their funding is a starting point that encourages other donors to come forward," says Watson.

The Arboretum has been an oasis in the community for 29 years. It is the largest and most comprehensive arboretum of any university in Ontario, featuring more than 3,000 different kinds of woody plants that are displayed in publicly accessible collections and formal gardens.

Each year, the Arboretum hosts 75,000 visitors, including faculty, staff and students, Guelph residents and visitors from other provinces and other countries. About 45,000 people participate in organized workshops, guided tours, dinner theatre and special events.

BY LORI BONA HUNT

TSS Summer Institute Will Focus on WebCT

Presentations, hands-on workshops planned

TEACHING SUPPORT SERVICES (TSS) is again offering a summer institute for faculty and instructional staff interested in learning more about WebCT (Guelph's supported Web-based development system) and some of its complementary programs.

The institute runs June 5 to 9 and includes presentations and hands-on workshops designed for beginners as well as experienced developers. Formal sessions are integrated with open laboratory times where individual assistance is available for those working on specific course development projects.

Sessions are scheduled as follows:

- June 5: "Web-Based Courses: Effective Design and Delivery," 9 to 10:30 a.m., and open lab time, noon to 4 p.m.;
- June 6: "WebCT: The Basics," 9 a.m. to noon, and open lab time,

noon to 4 p.m.;

- June 7: "WebCT: Advanced," 9 a.m. to noon, and open lab time, noon to 4 p.m.;

- June 8: "HTML for WebCT Users," 9 to 10:30 a.m., "Extending WebCT Beyond HTML," 10:30 a.m. to noon, "Enhancing Your Images," 1 to 2:30 p.m., and "PowerPoint on the Web," 2:30 to 4 p.m.

- June 9: Open lab for project work, 9 a.m. to 3 p.m.

For detailed descriptions of workshops or for online registration, see the summer institute link on the TSS Web site at www.tss.uoguelph.ca.

Space is limited, so early registration is recommended. Participants can register for some or all of the sessions.

For more information, call Mary Nairn at Ext. 3571 or send e-mail to mnairn@uoguelph.ca.

Breeding Project Aims to Save Chile's Endangered Pudu

Loss of habitat has caused drastic decline in population

A DEER-LIKE ANIMAL known to be a vital link in the food chain of Chilean forests is facing extinction, and a U of G researcher is trying to save it.

Prof. George Bubenik, Zoology, is collaborating with Eugenia Reyes of the University of Concepcion in Chile to study the physiology and reproduction of the pudu, a small animal important to the country's forest ecosystem. The researchers are also involved in a captive breeding program in Chile to help restore the pudu population.

"I'm hoping that our project will shed some light into the future of the pudu," says Bubenik. "We're doing all we can to ensure its survival and to help maintain balance within the Chilean forest ecosystem."

Bubenik says the survival of the pudu is essential for the sustainability of the forest ecosystem in Chile. Pudu make up a large portion of the puma's diet, as well as that of several other carnivorous animals.

Pudus dig tunnels through the bamboo underbrush, which other small animals can pass through, undetected by predators. And as the pudus make their way through these tunnels, their tough skin snags a variety of berries, providing food for themselves and other animals, while dispersing seeds throughout the forest.

Loss of habitat due to encroaching development and an increase in poaching has caused a drastic decline in the pudu population. Bubenik says it's hard to estimate the number of pudu in Chile because the animals are solitary and they hide in the underbrush. He estimates that there are less than a few thousand left.

Learning more about the physiology and behaviour of the pudu is essential for the captive breeding program, says Bubenik. In the male pudu, they have looked at the function of the thyroid gland, which regulates nutrition and metabolism, and the adrenal gland, which is involved in stress response. They've also studied antler development — an indicator of the reproductive status of the male pudu.

In their most recent project, Bubenik and Reyes are trying to stimulate the reproductive system of



Prof. George Bubenik is involved in a project to help restore the population of the pudu, a small mammal that plays an important role in maintaining balance within Chile's forest ecosystem.

PHOTO BY EUGENIA REYES

the female pudu to produce twins. They hope to boost infant survival rates, as well as increase the pudu population at a faster rate.

The animals are bred at the University of Concepcion and are reintroduced into the wild — first through large deer enclosures and finally into the forest.

So far, survival rates have been low, largely because few areas of native forest remain. Most have been replaced by either human infrastructure or plantations. Plantations provide forest, but the ground is cleared of all dense underbrush, leaving the pudu without habitat or

protection.

As population and development increase in Chile, the only chance for survival of the endangered pudu species — so far — is the breeding project conducted by Bubenik and Reyes.

Bubenik sponsors his own research on pudu physiology. The captive breeding program in Chile is sponsored by Forestal Rio Vergara and Forestal Cholguan. Blood samples are analysed by Dieter Schams of the Technical University of Munich.

BY JESSICA WHITMORE
OFFICE OF RESEARCH

NSERC Post-Graduate Scholarships Announced

NEARLY THREE-QUARTERS of Guelph students who applied this year for post-graduate scholarships from the Natural Sciences and Engineering Research Council (NSERC) will receive awards from the federal granting council.

NSERC approved almost 73 per cent of Guelph applications for these

awards this year, compared with 67 per cent in 1999.

U of G graduates planning to pursue master's degree studies at a Canadian university were particularly successful, with 27 of 31 applications approved (87.1 per cent, compared with the average for Canadian universities of 67.2 per cent).

"That's a testament to the

strength of Guelph's undergraduate programs," says Prof. Isobel Heathcote, dean of graduate studies. "A key performance indicator is their success in these competitions."

For post-graduate scholarships for master's programs, NSERC provides \$17,300 a year; for PhD programs, the awards are worth \$19,100 a year.

Geographer Digs at Roots of Salt Marsh Erosion

Researchers aren't convinced that humans are entirely responsible for rapid recession of salt marshes

IS MARSH EROSION along one of Canada's most valued ecosystems the result of human meddling or is there another cause? That's a question that Prof. Robin Davidson-Arnott, Geography, along with several colleagues and graduate students, is trying to solve.

Davidson-Arnott's laboratory is the salt marshes, mudflats and waters of the Cumberland Basin at the head of the Bay of Fundy, where he and his colleagues have spent the past five years in green rubber boots dodging the bays' famous tides. Between flood and ebb, the tides can range up to 16 metres.

To many, salt marsh erosion is a human-caused phenomenon — yet another example of encroaching civilization squeezing out nature. The landward side of the basin has seen a share of development since the area was first settled; towns and cities, flood barriers and the trans-Canada highway are all close by.

But Davidson-Arnott — who recently received the Association of American Geographers' R.J. Russell Award for career contributions to the discipline — and his colleagues aren't so sure that human efforts to control nature are entirely responsible for the rapid recession of some salt marshes in the basin.

Examining the extensive marsh system, one of the largest in Canada, they've come up with an alternate hypothesis. Humans may be playing a part in altering the landscape, but also at work is a natural cyclical system of marsh extension, followed by erosion and recession, and in turn followed by new growth and extension.

"When we discover that a given salt marsh is eroding, we naturally think this is a terrible happening, that we're losing all this vegetation and habitat," says Davidson-Arnott. "But when we examine the entire area, we discovered that while some areas are eroding, others are being extended. Our hypothesis is that this is a natural cycle, and we're hoping to prove this over the next few months."

Their research is critical because these marshes are an important stop on the migratory flyway for numerous species of wading birds as they travel between North and South America. The birds come to stock up on corophium, a tiny shrimp living in the basin's waters that feeds on organic material supplied by the marshes.

"The result is that these marshes are the organic source, the fuel, for the basin and the creatures who use it, including the birds who depend on the corophium to sustain them on the flight south," Davidson-Arnott says.

One method the researchers have used to test their new theory is to

gather aerial photos of the basin from the past 60 years and match them up with new GPS/GIS surveys. Work by U of G master's student Angela Scott has shown that over the decades, a salt marsh might grow in breadth by 50 metres, recede by the same distance, then grow again in size to 80 metres across.

Still, humans plays a part in the landscape. Over the years, a series of dykes and control gates — locally called aboisdeau — were set up as flood barriers. They prevented the natural movement of water, resulting in an accumulation of silt in the basin, possibly affecting erosion rates.

The issue is further complicated by an observed rise in seawater levels in the basin — three to five millimetres a year — due to a combination of global warming and tectonic subsidence.

Authorities are proposing corrective action. There's a move afoot to remove the dykes, and Davidson-Arnott and his team are looking at how this can be accomplished in a careful manner.

"Depending on how it's managed, removing the dykes could mean that inland freshwater marshes could become saltwater marshes," he says. "Do we want that? How interventionist should we be?"

At one time, his research was restricted to the 65 square kilometres of the basin's remaining natural salt marshes. In the past couple of years, he and his team have also included the mudflats and littoral waters of the area. In addition, they have expanded the time frame of their coverage to include low and high tides, night and day and through all four seasons.

Their project, "Tidal Creek Dynamics in a High-Macrotidal Salt Marsh," receives funding from the Natural Sciences and Engineering Research Council and was recently boosted by a \$2.1-million Canada Foundation for Innovation award to Mount Allison University for the construction of an indoor research facility.

Guelph has strong ties to universities in the Maritimes. Davidson-Arnott's research colleagues in the Cumberland Basin include his former PhD student Jeff Ollerhead, who is now chair of geography at Mount Allison, and Danika van Proosdij, a Guelph PhD student who also teaches at St. Mary's University in Halifax.

BY ALEXANDER WOOLEY

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THE SCHOOLING OF ENTREPRENEURS

"Only the alert and imaginative have much chance of controlling their own destinies"

By ANGUS REID

EVERY PARENT WITH A CHILD studying liberal arts at university has been here: another adult asks what course of studies young Jennifer or Johnny is pursuing. "History" is a typical response. Or "English literature." Or "psychology." Or, sigh, "philosophy." It's difficult for a parent to muster up eye contact during these little exchanges because there's always that awful nagging combination of pity and doom in the air: "What the @#\$! is she (or he) going to do with a degree like that?"

The answer is this: it depends. Specifically, it depends on the approach taken to obtaining the degree. Maybe the kid will put in a lethargic three or four years, avoid the dialectic of learning and have trouble finding a job after graduation. Really, who needs a run-of-the-mill psych grad? If a student doesn't have passion, commitment and other similar intangibles (not to mention good professors), getting a liberal arts degree can be a waste of student loans. But if a liberal arts degree is pursued with vigour and curiosity, it can be very valuable in today's marketplace — contrary to the perceptions of people who think the pursuit of a broad background in the arts or sciences is a waste of time.

Of course, it can be a waste of time for some people. In September 1997, Mark Edmundson, a professor at the University of Virginia, wrote an article in *Harper's* on how many liberal arts students don't seem to understand that learning involves conflict. That is, you can't begin to learn until you begin to challenge. Edmundson observes that the cool medium of television has taught all but a few of our kids that neat people are "low-key and non-assertive" — they blend in. He observes that on TV, "Enthusiasm ... looks absurd. The form of character that's most appealing on TV is calmly self-interested, though never greedy, attuned to the conventions and ironic. Judicious timing is preferred to sudden self-assertion. The TV medium is inhospitable to inspiration, improvisation, failures, slip-ups. All must run perfectly."

Young people who buy into that cool imagery will have trouble squeezing much genuine juice out of university, whether they take liberal arts, science, commerce or anything else. And should they stay loyal to the conformity of cool when they get out of school, they'll experience as much trouble finding real satisfaction in their careers. If I have one piece of advice for these kids, it's this: don't even toy with the notion of becoming an entrepreneur.

Let us focus instead on the "non-cool" kid. Let us think about the young person who (a) has a passion for learning and/or achieving and (b) has avoided succumbing to the prevailing need to fit in. And let's say this young person wants to be an entrepreneur. As an entrepreneur myself, I think this combination — passion and individuality — is a great start on the road to innovation. I think it is often more important than good marks. On the other hand, good marks can go hand-in-hand with intelligence and ambition (always useful companions). On the other hand, the quest for marks sometimes means settling for a mastery of the status quo, the very thing that successful entrepreneurs strive to upset.

Mainly as a result of technological change, the new economy is extremely volatile. Drive, imagination and flexibility are crucial to staying on top of the waves of an increasingly unstable world. (Coincidentally, these are characteristics of most successful entrepreneurs.) Diligence alone guarantees nothing anymore. At the most basic level over the past decade, the working class has been put in its place — seven-dollars-an-hour jobs are common for even the most earnest of non-skilled workers. At the highest levels, even the well-trained and competent are being hired and fired without qualm.

Only the alert and imaginative have much chance of controlling their own destinies in this world. The most daring of these will become entrepreneurs.

So bow do you train a person to become an entrepreneur? To some degree, you don't. A lot of what it takes is instinct and adrenaline. But how do you best prepare a young person who might have the right stuff to be an entrepreneur? That's the big question. The top-of-mind answers you'll get from most people are computer engineering, MBA or advanced accounting,



Maybe. In fact, I'd be the last person to dismiss any of these avenues.

But here are a few caveats. MBAs focus on succeeding in the corporate world, and the corporate world often demands skills that are more bureaucratic than entrepreneurial. In his book *The Unconscious Civilization*, John Ralston Saul strips the veneer off large corporations, pointing out that while decision-making always involves an element of risk, managers of large corporations aren't usually risking their homes on the business decisions they make. They may walk the high wire from time to time, but few of them without a net. As much as many corporate CEOs and managers inveigh against the bureaucrats in Ottawa, their working lives may be more similar to the working life of a public servant than they are to that of a genuine entrepreneur.

As for computer engineering — great, if that's where your skills lie. But they'd better lie there. Why would a young person with no innate bent for the world of bits and bytes want to compete with tens of thousands of people who come by this kind of aptitude naturally? How much energy will she have left for entrepreneurial dreaming and doing when it's tough slogging just to keep up? Ditto for accountancy. If tax law bores you stiff, this probably isn't going to be the best path to success.

In short, all three of these academic pursuits may look like excellent avenues to entrepreneurship. And, I repeat, they may be. But it's also possible that pursuing them may do more to stifle entrepreneurship than stimulate it. Which takes us back to the liberal arts (and sciences). I got my start (and doctoral degree) in sociology. My parents didn't have to wince as much when people queried them back then. There wasn't an obsession with winning or losing in the workplace. In fact, you had to look hard to find a way to lose in the workplaces of the '60s and '70s.

Sociology might not have had quite the cachet of becoming a doctor or lawyer, I admit. Still, sociology worked for me. I had a craving to learn in that field and a craving to become an entrepreneur. I was able to make these two cravings speak to one another.

If a student avoids the "intellectual timidity" that Edmundson sees in so many of his University of Virginia classes, a liberal education should open that student's eyes to the patterns and idiosyncrasies of humanity. And those are phenomena you want to be familiar with if you want to succeed in the marketplace. Beyond all the cyphers, you need to know people and their nuances.

In the *National Post* special issue *Business* in November 1999, Tony Keller points out that of the top 151 Canadian CEOs in Canada, most had no degree beyond a B.Sc. or BA. Not many

MBAs. Also in November, Mark Evans of the *Globe and Mail* wrote about Robert Young, the billionaire president of Red Hat Inc. Young co-founded his Linux software company in 1995. He is a history graduate. He created a stir speaking to the University of Toronto's Rotman School of Management by saying that MBA courses are terrible training grounds for risk-takers because they teach students how to succeed within a structured environment. On the other hand, he points out, liberal arts courses are designed to encourage students to "learn how to learn" — to learn beyond conventional structure. When liberal arts students graduate, Evans says, the best of them will have that learning capacity. They may also be "inherently qualified to do nothing." These kinds of people have no natural vocation. But they may well have an aptitude to figure things out and a curiosity to do so. If they are risk-takers in addition, they may well turn into entrepreneurs.

Look back into history. The Industrial Revolution, which straddled the late 19th century and much of the 20th century, pigeonholed most workers. People on assembly lines and in offices were restricted to narrowly defined chores, on the theory that specialization enhanced output. These workers actually became less capable of performing a broad range of skills than their ancestors in an agrarian economy had been. Most of them also became less curious. And less ambitious. They had their niche and were well rewarded for functioning within it, so what was the point of thinking outside that little circle of competence? Their agrarian ancestors, on the other hand, had multiple chores in life and were constantly being battered by the vicissitudes of weather, wars and the lack of a social safety net. Furthermore, education wasn't a right. People had to find other ways of forging their destinies. As a result, curiosity and adaptability were critical to success.

A century or more later, curiosity and adaptability have made a resurgence. The new world economy doesn't impose nearly as many pigeonholes as it has for the last half-century. Even corporations are learning that well-trained "yes men" can be a lot less useful than eccentrics, contrarians and free thinkers, who may come up with a better way of doing things. Tattoos? Ponytails? Pierced noses? Who cares, as long as they can think and do?

Young insists that an important part of his success in building Red Hat has been his ability to "think and react quickly on the run ... to think out of the box." That's the kind of thinking that any liberal arts program encourages (or should encourage). And it will, as long as professors recognize what Edmundson knows — that students who laugh at your jokes and lap up whatever you say aren't likely your best students.

People who are trained — in this case those trained to fit in comfortably in the classroom and pass their exams — aren't likely to rise to the level of people who are educated. Education involves challenging the conventional way of doing things. So does entrepreneurship.

And what about the kids who don't want to risk a nickel in the marketplace, who never want to become entrepreneurs in the traditional commercial sense of the word? Good for them. Our society has plenty of problems that can't be solved by the marketplace — in fact, it has plenty of problems that have been created by the marketplace. Health, education and social assistance are in disarray, and their improvement requires thinkers. In a sense, these thinkers could be considered social entrepreneurs — people with imagination, drive and flexibility who are willing to take risks that aren't necessarily market-driven.

In short, any parent whose child has a challenging mind shouldn't be afraid of making eye contact when somebody asks what the @#\$% this kid is doing in liberal arts. Who knows? The kid might be doing nothing; for many students, liberal arts may be no more than a finishing school. But the liberal arts can also be a starting school. Neither employers nor other people's parents should assume this avenue leads to a dead end. If there is passion and imagination, it may well be the road to success.

Angus Reid is chair and CEO of the Angus Reid Group, Inc. This article originally appeared in the January/February 2000 issue of *The Angus Reid Report* and is reprinted with permission.

STAGES OF LIFE

Nutritional scientist tackles roles in community theatre and as subject of her own research

BY LORI BONA HUNT

ALL THE WORLD really is a stage for Prof. Kelly Meckling-Gill. The nutritional scientist is constantly performing — acting in the classroom, directing students and research, producing projects and studies. And she always has an audience, people watching, listening and learning.

Recently, Meckling-Gill, best known for her research on nutrition and cancer, played a larger part in two productions. She had a role in a community play and she "cast" herself as the lead in a research project on low-carbohydrate diets.

Admittedly, her role in the Elora Community Theatre's production of *Ten Little Indians* had a bit more dramatic flair than her part as a research study subject, which resulted in her losing 30 pounds in five months. But Meckling-Gill says both debuts left her with a renewed interest in her work and life.

"You're always performing as a professor, but it isn't the same as being in a play," she says. "In a play, you get to be someone different. It was a great experience, one I will definitely do again."

As for making herself the research subject of her own study, "I'd do that again, too. I'm not comfortable asking people to be in a human subjects study unless I'm convinced it's safe or effective. I don't like to risk that something bad is going to happen."

Both of Meckling-Gill's recent roles come as no surprise to Prof. Jim Kirkland, a colleague in the Department of Human Biology and Nutritional Sciences who has worked with her for nine years. The two joined their department within six months of each other.

"She's a pretty dramatic person all around," he says. "She has lots of energy and enthusiasm and is really a curious person with a lot of imagination. Her ideas just sort of flow whenever the whim seems to take her. She's not limited by her initial impressions of something either."

How about going so far as conducting a study on herself? "Well, she leads by example," says Kirkland. "She does things because she's interested in them."

In this case, Meckling-Gill was interested in finding out the truth about controversial low-carbohydrate diets. She knew they often resulted in dramatic weight loss, but also wondered if they had any health side effects.

"There's a lot of hype out there about these diets, but huge gaps in the scientific literature that tests or measures the health performance and how long people can maintain the weight



loss," she says.

So Meckling-Gill, who says she wanted to take off some weight anyway, studied both the scientific and lay literature. She then put herself on a diet where she limited her intake of carbohydrates to 50 grams a day. She monitored her weight loss and changes in body mass, as well as her health, including lipids, glucose tolerance, blood pressure and cholesterol and energy levels. After five months and a weight loss of 30 pounds with no negative health effects, she decided to expand the study and include other women. With the help of a graduate student, she recruited women who wanted to lose between 20 and 50 pounds.

Meckling-Gill is still working on compiling the results of that study for publication, but she says most of the research subjects lost weight — some of them a substantial amount. But all participants saw improvements in their health, including decreases in triglycerides and decreases in blood pressure. "These positive changes were even noted in the women who didn't lose any weight," she says. She plans a second round of the study in the fall and is looking for more participants.

Meckling-Gill has a long-standing interest in nutrition, especially as it relates to cancer. She's conducted extensive studies

on the role vitamin D plays in steering cancer cells away from growth towards cell differentiation. Her research may form the basis of new therapies for fighting leukemia. She's also studied food labelling, omega-3 fatty acids and the role of nutrition and fat in cancer therapy. The latter work has received major support from the National Cancer Institute and the Medical Research Council.

A molecular biologist by training, Meckling-Gill did her undergraduate work at the University of Calgary and began work on her master's degree at the University of British Columbia before moving to Toronto to complete a PhD in medical genetics at the University of Toronto. She then completed a post-doctoral fellowship at the University of Alberta. In the middle of it all, she had two sons — the first while writing her thesis, the second during her post-doctoral fellowship. In 1997, she took a research sabbatical and went to England to conduct research on cancer.

How in the world does she balance a fast-paced career and parenting? That topic alone is enough to fill up an entire *@Guelph* profile, she says. "But I can say the most important things are a really supportive spouse and a supportive family."

Meckling-Gill's spouse, Jon Jo Gill, put off his own schooling to stay at home with their sons: Mitchell, now 12, and Spencer, 10. She says her husband's support also helps her juggle her other interests — competitive volleyball, squash, running and coaching volleyball, baseball and soccer... and now the theatre. She was also involved in the Guelph Little Theatre before moving to Elora, but it was always behind the scenes.

"I really find I need another outlet in life other than my work," she says. "You can only work for so long."

Meckling-Gill says she and her husband worked around each other's schedules to enable her to perform the role of Mrs. Rogers, the cook, in *Ten Little Indians*. "I'm the second one to die, so I only had to be at half of the rehearsals," she says with a laugh. "It was a lot of fun and my kids loved it. My older son saw it three times."

Although Kirkland didn't make it to Elora to see his colleague on stage, he applauds her spunk. "Teaching certainly prepares you to be comfortable in front of a large audience, but to go this extra step — to actually get involved in drama — that's pretty risky, as far as the ego is concerned," he says. "It certainly isn't something I would do."

Good Dogs, Bad Hearts

Deadly disease lurks in the hearts of many Doberman pinschers

EARLY DETECTION of an incurable heart disease found particularly in Doberman pinschers may be critical in slowing its inevitable progression towards death, says an OVC researcher.

In a partnership with Doberman owners that may soon span the globe, Prof. Michael O'Grady, Clinical Studies, and research assistant Rhonie Horne are using ultrasound and heart monitors to trace the history and progression of a condition known as dilated cardiomyopathy (DCM).

By mapping the DCM disease process from its early stages to its final fatal ending, the researchers are hoping to find methods to detect it earlier, treat it more effectively and

buy valuable time for the dogs and their owners.

"Finding and treating this condition early can significantly extend the life of the dog," says O'Grady. "That will hopefully allow the owners to adjust and accept the eventual loss of their pet."

DCM is a genetic disease that causes dilation in the heart's chambers, leading to cardiac dysfunction and death. For roughly one-third of affected dogs, the first and only sign of the condition is when the animal suddenly dies. Even when DCM is diagnosed prior to death, the remaining time is measured in days, weeks or months, but never years.

Although DCM is found in many breeds, Dobermans are the bardest

hit. O'Grady estimates that roughly 50 per cent of the Dobermans in many regions of Canada and the United States are affected.

His research with Horne began 11 years ago, when they started studying the hearts of Dobermans with ultrasound and electrocardiograms, trying to find crucial heart differences. After thousands of examinations involving hundreds of dogs, the researchers have been able to find subtle clues that allow them to diagnose the condition earlier on in its progression. Early diagnosis leads to early drug treatment, which often results in longer lives.

DCM isn't restricted just to dogs — it's also the second most common cause of heart disease among hu-

mans. Medical researchers and pharmaceutical companies are continually testing new drugs that may aid in its treatment in people, a process O'Grady hopes will also help dogs.

Unfortunately, his list of promising treatments seems longer than his list of canine volunteers, a problem he hopes to remedy later this year. O'Grady is organizing a program that would involve sending portable ECG recorders to participating Doberman owners and breeders around the world. Once a year, subject dogs would wear an ECG for a 24-hour period while it records about 130,000 heartbeats on tape. The tapes would then be sent back to OVC, where they could be analysed for abnormal beats and compared

year after year to trace the progression of DCM cases.

O'Grady hopes that as the scope of his research increases, so will his chances of finding the best possible treatments.

"There are lots of drug treatments out there just waiting to be explored, but I need all the 'Dobies' I can get in order to test a drug's potential value," he says. "The better the participation by owners and breeders, the closer we'll get to finding the answers we need."

This research is supported by OVC's Pet Trust. For information on how to participate in the study, call Horne at Ext. 4047.

BY IAN LANG
OFFICE OF RESEARCH

Biocomputing Combines Campus Expertise

Veterinary researchers, computer scientists join forces to diagnose lameness in racehorses

RACEHORSE OWNERS — and their high-priced charges — stand to benefit from more precise diagnosis and treatment of hoof and leg problems that might result from two related projects involving researchers in OVC and the College of Physical and Engineering Science.

Besides holding out the prospect of new diagnostic tools and techniques, these cross-campus partnerships provide apt examples of how biologists, engineers and computing scientists are meeting more regularly in the growing field of biological computation. Biocomputing involves using computing methods to make sense of ever-increasing amounts of biological information.

The first project might eventually yield a computer tool to diagnose the causes of lameness in horses and perhaps in other livestock such as pigs and cattle.

This collaboration would see information collected about mechanical stresses on horses' hooves fed into a computer-based neural network "trained" to distinguish between normal and lame horses.

Prof. Jeff Thomason, Biomedical Sciences, envisions a diagnostic device equipped with special software that veterinarians might use to gain more precise information about the nature of a hoof injury.

He has begun working with Computing and Information Science (CIS) professors Dave Calvert and Deb Stacey, both of whom study

neural networks as part of the Guelph Natural Computation Group, along with other faculty in CIS and the School of Engineering.

Pointing to a schematic on his computer monitor, Thomason explains that gauges hooked to a horse's hoof yield information on the angle and magnitude of strain at different points as well as how those variables change through the horse's stride. (The measurements have been taken from horses at several locations, including Sunrise Equestrian Centre. See the Dec. 8, 1999, issue of *Guelph*.)

Those measurements collected with each stride — along with additional information on whether the horse was being ridden or hand-led, turning or moving straight, shod or not — yield "hundreds of thousands of numbers," says Thomason. He has used statistical analyses to hunt down patterns in the data, but these methods don't lend themselves to making predictions about individual cases. "They may be able to distinguish all lame horses from all healthy ones, but not a single lame horse. This is where neural nets come in."

By chewing through piles of numbers and grouping and labelling the data, the neural network would quickly "learn" the rules for telling healthy and lame horses apart. "Can you tell all the circumstances from just looking at strain information?" Calvert asks rhetorically. "If yes, then we can start getting records from

lame horses and start exploring the use of neural networks as a diagnostic tool."

Thomason says vets making on-farm visits often have trouble discerning precisely what ails a lame horse beneath its hoof. Armed with a kind of electronic veterinary assistant, "there's no reason someone couldn't go around or be employed by horse owners to test horses on a regular basis," he says.

Such a system might even be useful to pig or cattle farmers, whose livestock can develop sore feet if they're kept on a concrete floor or a slatted surface designed for manure collection and disposal.

Calvert says his first task once he starts receiving information from Thomason will be to determine whether the computer can provide reliable information about a horse's condition based on strain data. He plans to hire a student under an undergraduate research assistantship for this project. "We're training neural networks to extract patterns from the data."

This work builds on the kind of expertise he developed on another project that seems similarly removed from his desktop in the Reynolds Building. Later this year, he will present a paper at an engineering conference about using a neural network, along with Prof. Mary Buhr, Animal and Poultry Science, to pinpoint breeding bulls likely to produce high-quality semen.

Developing a better way to diagnose the causes of lameness in racehorses is also the purpose of the second OVC/CPES collaboration, this time between Prof. Howard Dobson, Clinical Studies, and Prof. Bob Dony, Engineering. They plan to blend their respective skills in radiology and signal processing to construct a more sophisticated imaging device that might save horses — and their owners — unnecessary grief when the animals are being checked for orthopedic and neurological problems.

Currently available devices for magnetic resonance imaging (MRI) require vets to anesthetize an animal and lay it down. Because of the risk of complications, racehorse owners — the primary market for this sophisticated imaging technology — shy away from exposing their animals to general anesthesia.

Using a device envisioned by the Guelph researchers, a veterinarian would need only sedate the horse, which would be imaged while walking between two halves of the device, roughly analogous to an airport electronic detector.

Besides making the process less stressful, this device would give the vet a clearer picture of the loads on the horse's leg. Dobson explains that the device would typically be used to diagnose the cause of lameness, such as arthritis or infection.

Dony's work in signal processing has found application before in

medical imaging, such as image processing and compression for chest X-rays taken at a Hamilton hospital. "The logical next step was to work with someone at the Ontario Veterinary College," he says.

Dobson says a new device would either be adapted from available off-the-shelf equipment or built from scratch. Building such a device would cost about \$5 million, compared with the \$1 million to \$2 million for an existing machine. He plans to apply for federal research funding to pay for the equipment.

Dony envisions working on software design for the MRI. "I would like to be involved with the engineering and development of the physical device and the computer processing that goes into creating the image."

He would also analyse the images, including trying out new computational techniques for processing images that would give clearer pictures of the health of an animal's hoof and leg. "That follows up from my interest in signal processing," Dony says, adding that the School of Engineering plans to introduce undergraduate and graduate courses in imaging.

Dobson says neural networks are increasingly being investigated for their use in medical diagnostic imaging. "A neural network will refine my ability to make a diagnosis," he says, noting that such a device would complement existing diagnostic tools and equipment at OVC.

BY ANDREW VOWLES

DVM 2000 a Curriculum for the New Century

New, more learner-centred program debuts this fall at Ontario Veterinary College

OVC'S REVISED program, DVM 2000, welcomes its first class this fall, providing students with an education that is more learner-centred, with greater opportunities for experiential and self-directed learning early in the program, and a more thematic approach. The ultimate aim of DVM 2000 is to match the knowledge, skills and attitudes taught at OVC with society's expectations of the entry-level veterinarian, says Prof. Jill McCutcheon, OVC assistant dean (undergraduate academic affairs).

Developing DVM 2000 required OVC to undertake a detailed review of its current curriculum and the level of competence of new DVM graduates relative to primary-care veterinary practice. From this review, it was evident there was a need to renew the approach to and content of the college's curriculum, McCutcheon says. Discussions with employers, public-interest groups, faculty and students helped OVC develop general and veterinary competencies that established the expected outcomes for its students and the framework of teaching for faculty, she says.

In the spring and summer of 1999, Prof. Danny Butler, Clinical

Studies, designed and tested two questionnaires to ascertain the level of competence of OVC graduates. Questionnaires were sent to graduates of OVC's Class of 1999 and their employers.

Butler says this comprehensive survey revealed that OVC graduates possess the necessary entry-level competencies to practise veterinary medicine. In fact, employers in both small- and large-animal practices perceived 92 per cent of new graduates as having adequate or higher clinical abilities to do the job they were hired for. The remaining eight per cent of new graduates were judged by employers to have acceptable clinical abilities, he says.

Although the statistics show that the veterinary profession rates OVC graduates as possessing entry-level competency, OVC acknowledges the need to provide students with a program that addresses themes crucial to the business-related, social and professional aspects of a veterinary career, Butler says.

DVM 2000 has been developed in stages — an extensive task that has been in progress since the early 1990s. Stage 1, building the framework of the program, began with producing a document called "Professional Competencies of Canadian

Veterinarians: A Basis for Curriculum Development." This was accepted by the DVM program committee in 1994 and has become a foundation for evaluation and development of the new program. It describes the competencies expected of student vets at each level of the curriculum, based on U of G's learning objectives in general and the more specific veterinary competencies. The document will be used for clarification of course and rotational objectives and as a basis for performance-based assessment.

DVM 2000 has four year-long phases that represent stages in the student's progress in the development of a scientific knowledge base and in acquiring clinical, technical and affective skills, which include competency in areas such as communication and information retrieval, personal and professional management, and interpersonal and team-building skills.

One of the strategies for the revised program is a more self-directed approach to learning, which is ultimately more beneficial in the development of lifelong learners, says McCutcheon. To assist student learning, the curriculum integrates subjects in each phase and links subjects presented in each suc-

cessive phase. This integrated approach has been enhanced by the introduction of several themes that will continue throughout the entire program, she says.

Three courses in the curriculum will continue through the first two or three phases of the program, with the emphasis changing according to the content and competencies addressed in each phase. The courses are "Clinical Medicine," "Health Management" and "The Art of Veterinary Medicine."

"Clinical Medicine" will provide an early orientation to large and small animals and ongoing exposure to various aspects of clinical medicine. Where possible, the laboratories are timed to provide experiential opportunities linked to topics under discussion in other courses.

"Health Management" is divided into two segments — initially establishing the historical perspective and the basic tools needed to solve disease problems, and subsequently using these tools to examine the disciplines of medical epidemiology, ethology, animal management and public health.

"The Art of Veterinary Medicine" will appear in the first three phases of the curriculum, with the competencies being used and as-

sessed in the fourth and final phase. In the first phase, this course will focus on the development of interpersonal and group/team skills; articulation of issues related to ethics and welfare and a greater understanding of grieving and loss; information literacy, including retrieval and management; and the foundation of written and oral communication skills. In the second and third phases of the program, the course will build on the communication and professional skills established in Phase 1, with the introduction of communication skills related to interactions with clients and an understanding of some of the fundamentals of business management.

Looking ahead, planning also includes the development of courses, electives and summer research and employment programs that will increase a student's exposure to the diversity of career options for veterinary graduates, says McCutcheon.

OVC dean Alan Meek says he's looking forward to the fall launch of "this truly learner-centred and innovative curriculum. It is a tribute to the many stakeholders consulted with and to the whole OVC community, who came together in tough times to conceive the idea and to push on with its design and implementation."

These Tomatoes Can Chill Out

Researchers predict double or triple the normal shelf life

MOVE OVER, Flav'r Sav'r tomatoes. Tastier, firmer field tomatoes with a longer shelf life, better quality and improved chilling tolerance are being developed by U of G researchers using genetic engineering techniques.

Prof. Gopi Paliyath, Food Science, and research associate Kurt Almquist predict that these tomatoes could have double or triple the normal shelf life. Potentially, they could ripen on the vine for a longer period and tolerate refrigeration before processing, without compromising quality and nutritional value.

With Ontario's short growing season for field tomatoes, improving these characteristics is important, says Paliyath.

"Our goal is to provide consistent and long-term availability of Ontario-grown field tomatoes for both the fresh market and processing industry," he says.

Improving the shelf life and quality of tomatoes is based on an understanding of the pathway involved in cell membrane degradation, a key process causing the deterioration of tomatoes and other perishable fruits and vegetables. Tomatoes are highly sensitive to cold temperatures, and exposure to cold stress triggers the activity of phospholipase D, an enzyme that initiates cell membrane breakdown.

Paliyath and Almquist are trying to inhibit the activity of phospholipase D to prevent or slow down the degradation of the cell membrane. The first step in this process is to regulate the enzyme's activity, using molecular biology techniques.

To that end, the researchers plan to remove the gene that codes for phospholipase, copy it and then reinsert it into the tomato in reverse, a method known as anti-sense technology. This could turn off the action of phospholipase D and inhibit the degradation of the cell membrane.

The result will be a genetically altered tomato with increased shelf life, better quality and other potential features such as chilling tolerance, making it suitable for long-term storage.

The Flav'r Sav'r tomato has been genetically altered to slow the softening process by blocking an enzyme that breaks down the cell wall. It results in a tomato that can ripen for a longer period on the vine and still retain firmness during trans-



Prof. Gopi Paliyath, left, Reena Pinhero and Kurt Almquist are developing tastier, better-quality tomatoes with improved shelf life and chilling tolerance.

PHOTO BY MARTIN SCHWALBE

port. But the inside of the cells would continue to degrade, resulting in a tomato that lacks flavour and eating quality.

This won't be the case with the new tomato variety, say the researchers. The degradation of the cell membrane is inhibited, so nutrients stay within the cells. In plants, the cell wall provides structural support for the cell, and the cell membrane regulates what moves in and out. Cellular contents such as nutrients are lost if the integrity of the cell wall is preserved but the cell membrane is not.

Paliyath expects these tomatoes will remain firm during transport because enhancing the integrity of the cell membrane will also improve the quality of the cell wall.

In the future, he hopes to use this method to improve shelf life, quality and chilling tolerance in other fruits and vegetables, including peaches, plums, cherries, peppers, potatoes and leafy vegetables. Reena Pinhero, who holds a Natural Sciences and

Engineering Research Council post-doctoral fellowship in the Department of Food Science, and plant agriculture graduate student Vasantha Rupasinghe are studying some of these aspects.

This research is sponsored by the Ontario Ministry of Agriculture, Food and Rural Affairs.

BY CAROL PILLEY
OFFICE OF RESEARCH

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June 7	May 29	Oct. 11	Oct. 2
June 21	June 12	Oct. 25	Oct. 16
July 12	July 3	Nov. 8	Oct. 30
Aug. 9	July 31	Nov. 22	Nov. 13
Sept. 13	Sept. 1	Dec. 6	Nov. 27
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Child-Care Workers Better Educated Than Ever Before

Continued from page 1

they play, however, salaries remain low.

You Bet I Care!, the first of three reports the centre will publish on child care, confirms that in the absence of leadership in policy-making, program development and adequate funding, child-care centres are vulnerable, says Lero.

"In many provinces, the picture we are seeing is one of erosion, with some of the best, most experienced teachers leaving not only their centres, but also the child-care field. Salaries remain low and are not commensurate with the responsibilities child-care staff have, nor the dedication these teachers show to the children and families who depend on them."

The report was released May 11 at the Orde Day-Care Centre in Toronto. Media coverage of the release was extensive. "Public interest in this issue has been strong for many years," says Lero.

The federally funded study used

mailed surveys of centre directors and staff from all provinces and two territories. Nearly 6,000 completed survey questionnaires were received.

The researchers found several critical areas that are placing quality child care at serious risk:

- Staff turnover, fuelled by low wages, is a major concern. Research shows that the continuity of the relationship between caregiver and child is important to the child's well-being and development. On a Canada-wide basis, one in five staff (22 per cent) leave their centres each year. In some provinces, turnover is even higher — 44.8 per cent in Alberta and 32.2 per cent in Saskatchewan.
- The most common reason cited for leaving is the low salary. Child-care teachers earn an average of \$22,717 a year across Canada, just above the average of \$21,038 earned by parking lot attendants. Eighty-two per cent of centre staff have at least one year

of post-secondary specialized education, and 75 per cent have a two-year college credential or university degree.

- Thirty-eight per cent of centre directors identified their centre's continued financial viability as the most pressing issue they had faced in the previous year. Child-care centres struggle daily to provide quality services at prices parents can afford, working within very tight budgets.
- From 1991 to 1998, the proportion of child-care workers who said they believed professionals in other fields respect their work dropped sharply, from 42 per cent to 19.9 per cent. The proportion believing the public respects their work fell by half.
- Child-care workers are better educated than ever before. Teaching staff with formal child-care education credentials nearly doubled in the 1990s. On the other hand, opportunities for professional devel-

opment once in a teaching position fell by nearly half over the same period.

Despite these issues, 95 per cent of teaching staff reported feeling that they make a positive difference in children's lives, and a similar proportion identified "the nature of the work" as among the positive aspects of child care as a career. But because of poor pay and few promotion opportunities, the proportion of teaching staff who would choose a career in child care again if starting over fell from 62.4 per cent in 1991 to 44.4 per cent in 1998.

"Despite much rhetoric last year, the federal and provincial governments have not produced a real national children's agenda including a coherent, co-ordinated approach to promoting early childhood development," says Lero. "We concluded that governments must take the lead in partnership with business, labour, parents and communities to ensure that public policies and funding ap-

proaches support the provision of high-quality, stable care and education for young children regardless of where they live or their family income. These services play a vital role in children's lives. If we expect children to be healthy and active learners in a changing world, parents to be supported while at work or completing their education, and communities to have stable structures in place, then high-quality early childhood services must be supported and child-care teachers must be valued for the important contributions they make on a daily basis."

Lero's co-investigators on *You Bet I Care!* were Gillian Doherty, an adjunct professor in the Department of Family Relations and Applied Nutrition; Annette LaGrange, dean of education at the University of Calgary; Jocelyne Tougas, a Quebec child-care consultant; and Prof. Hillel Goelman of the University of British Columbia.

BY ALEXANDER WOOLEY

Collection Will Complement Existing Archives

Continued from page 1

TRELLIS online public-access catalogue.

Sue Bennett, a librarian and archivist working for both OAC and the library, says the potential of the Rural Heritage Collection will be fully exposed through its new relationship with U of G's special collection resources.

She notes that many individuals and organizations familiar with the quality of the collection's agricultural and rural resources have made financial contributions to the proj-

ect, "but we still need \$50,000 to \$75,000 to completely fund the project. Our plan is to continue to pursue private foundations as well as individuals and organizations."

Overseeing the monumental task of cataloguing the collection is Bob Watson, a historian and library assistant at the U of G Library since 1988. His job will involve sorting through the collection, preserving materials and documents, and integrating the collection with TRELLIS, the library's existing catalogue.

"The more exposure the collection receives, the more use it will be to academic communities across the world," says Watson. "It's disturbing to see a large collection like this remain unused. The quicker it's accessible, the better."

The collection is currently being housed at the Tri-University Group of Libraries Annex, where it occupies three stacks of bookshelves as well as extensive floor space — some 3,000 cubic feet in total. It's expected that about half the collection will remain

at the annex, and the other half will eventually be stored in the library's archival and rare books section.

Much of the collection pertains to Ontario, but there are also broadly based items related to such topics as Canadian history, church history and gardening. Considered to be the most significant collection dealing with agricultural history in Ontario, it will complement existing archival collections such as the Ontario Farm Movements Collection and the Federated Women's Insti-

tutes of Ontario.

Watson's first tasks will include identifying and withdrawing duplicates from the collection, identifying rare and fragile materials, and dividing the collection into component parts. He will then work with graduate students to catalogue and preserve the various components.

"We'll deal with one chunk at a time and decide how best to preserve each," he says.

BY MARGARET BOYD
OFFICE OF RESEARCH

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Unfurnished bachelor apartment for non-smoking female, close to campus, parking, needed for Aug. 1, send e-mail to relle@bmts.com.

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Country home to rent within 30 minutes of Guelph for equine veterinarian couple, nice home near Guelph would also be considered, 612-625-6248 days, 612-331-3242 evenings or send e-mail to rade1005@tc.umn.edu.

New faculty member seeks unfurnished apartment or house to rent for July 1, Elaine, 215-546-6544 or send e-mail to echang@ix.netcom.com.

Furnished one-bedroom bachelor apartment or self-contained suite for scientist visiting the University, within 15-minute walk to campus, laundry, parking, Sept. 1 to Aug. 30, 2001, Paul, 204-729-8957 or send e-mail to pmcaughey@em.agr.ca.

Spanish tutor for one month, rate negotiable, Laura, Ext. 2436 or send e-mail to thomas@uoguelph.ca.

Full-time caregiver for three children in my home in Elora, start immediately and continue through summer, hours and pay to be negotiated, Jennifer, 743-4078 or 846-8457.

Room for fall semester, Brenda, 519-269-3527 or send e-mail to bno@uoguelph.ca.

One-bedroom/bachelor apartment for quiet fourth-year female student, within 20-minute walk of campus, laundry, non-smoker, no pets, parking required, September to April 2001, Emily, 836-9182.

Country home with reasonable rent for mature, responsible woman and well-behaved animals, 30 years in present house, non-smoker, 856-9653.

Two-bedroom apartment needed for two mature students with two cats for Aug. 1, preferably less than \$650 a month, send e-mail to jgods-mar@uoguelph.ca.

AVAILABLE

Squash lessons from certified Squash Canada Level 1 coach, Ext. 8793 or send e-mail to squash@racquetec.ca.

German lessons from German exchange student, beginners and advanced, flexible hours and rates, 822-4718 or send e-mail to eikehaessler@hotmail.com.

Care for your dog in my home while your travel, Cobi, 836-8086 or send e-mail to ccdemmers@uoguelph.ca.

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ARBORETUM

A lilac tree will be dedicated in memory of loved ones May 28 at 2 p.m. in the Hospice Wellington Lilac Garden. Everyone is welcome.

Naturalist Chris Earley presents "Look, See, Paint," a watercolour course focusing on the natural world, June 13 from 1 to 3:30 p.m. at the Arboretum. Cost is \$25. Registration and payment are required by June 6. To register, call Ext. 4110.

A workshop on sketching nature led by naturalist Chris Earley runs June 21 at 7 p.m. at the Arboretum. Cost is \$20. Registration and payment are required by June 6.

NOTICES

President Mordechai Rozanski is hosting a reception May 29 to honour Prof. Iain Campbell as he completes his term as provost and vice-president. The event runs from 4:30 to 6:30 p.m. in the Conservatory Gardens (rain location is the Whippertree on Level 4 of the University Centre). To attend, call Alles Fairclough at Ext. 6542 or send e-mail to afairclou@exec.admin.uoguelph.ca. A scholarship for third-year physics students is being established in Campbell's name. Donations towards the J.L. Campbell Scholarship in Physics can be sent to Alumni House.

The International Development Research Centre (IDRC) and the Association of Universities and Colleges of Canada provides sabbatical grants in Africa for Canadian researchers to support, through scientific co-operation, the development of applied knowledge for the development process and contribute to the realization of IDRC objectives in Africa. Priority themes are food security, equity in natural resource use, biodiversity conservation, sustainable

employment, strategies and policies for healthy societies, information and communication, and gender. Application deadline is Aug. 31. Guidelines are available on the Web at www.aucc.ca.

Male subjects between the ages of 35 and 65 are needed for an eight-week study on natural products for cholesterol reduction being conducted by M.Sc. student Alexandra Fraser and Prof. Bruce Holub, Human Biology and Nutritional Sciences. Lipid/cholesterol profiles, food diary analysis and financial compensation will be provided on completion of the trial. For more information, leave a message at Ext. 3721 or send e-mail to mfraser@uoguelph.ca.

The art of ebru, Turkish paper marbling, is featured in a calendar designed and produced by College of Arts graduate Rezan Peya Gökçen. Proceeds from sales of the calendar will establish a scholarship for a university arts student affected by recent major earthquakes in Turkey. The calendar costs \$25 and can be ordered through the Web at http://ccshst07.cs.uoguelph.ca/~rgokcen/Turkish_Bookarts/ or by calling Gökçen at 822-5692.

The Real Estate Division will hold an art sale May 29 and 30 from 10 a.m. to 4 p.m. in the main lobby of the Research Park Centre. The sale includes works by James Lumbers, Robert Bateman, A.J. Casson, Walter Campbell, Jim Hansel and Ronald Bayens.

The Association of Universities and Colleges of Canada will hold its 2000 International Conference Oct. 31 to Nov. 2 in Montreal. Plenary sessions and workshops will focus on the opportunities and challenges created by the "globalization of knowledge" and will examine the impact of technology. For more information, call

Darlene Gibbs at 613-563-3961, Ext. 306, fax to 613-563-9745 or e-mail to dgibbs@aucc.ca. Information is also available on the Web at www.aucc.ca. The annual conference of the Canadian Bureau for International Education runs Nov. 3 to 6 in Montreal. For information, visit the Web site www.cbie.ca.

The Stress Management and High Performance Clinic is offering a "Better Sleep Program" Tuesdays at 5:30 p.m. in UC 103, beginning May 30. Cost is \$50 general, \$20 for U of G students. For more information, visit the Web site www.uoguelph.ca/~ksomers or leave a message at Ext. 2662.

The Centre for International Programs has appointed Erin Gilgan acting study-abroad manager until Nov. 20. Becky Stranberg will serve as acting education-abroad adviser. Gilgan can be reached at Ext. 6914; Stranberg is at Ext. 8466.

READING

Philosophy PhD student Karen Houle will read from her new book of poetry, *Ballast*, May 28 at 7 p.m. in the Bookshelf E-bar. Also featured will be poets Darren Werschler-Henry and Ken Babstock.

SYMPOSIUM

A symposium is planned to celebrate the inauguration of the Guelph-Waterloo Physics Institute. Titled "New Physics for a New Age," the symposium will be held June 2 at the OMAFRA Building. Guest speakers include scientists from Laval University, the University of Sheffield, Los Alamos National Laboratory, the National Research Council and Princeton University, focusing on such topics as quantum optics, astrophysics and particle physics. The symposium will include a poster session with wine and cheese and a

banquet at the Cullen Club. For registration information, visit the Web site <http://gwp.on.ca>.

TEACHING SUPPORT

Teaching Support Services presents its annual conference May 25 from 8:30 a.m. to 4:30 p.m. in Peter Clark Hall. This year's theme is learner-centredness.

THESIS DEFENCES

The final examination of Chad Lowe, an M.Sc. candidate in the Department of Zoology, is May 26 at 9 a.m. in Axelrod 265A. The thesis is "Global Distribution, Phylogeny and Taxonomy of the Freshwater Zooplankton Genus *Holopedium*." The adviser is Prof. Paul Hebert.

The final examination of Jolanta Siwik, Food Science, is May 26 at 2 p.m. in Laboratory Services Boardroom B. The thesis is "Assessment of Protein Fingerprinting Method for Species Verification of Meats." The adviser is Joseph Odumeru.

The final examination of PhD candidate Janos Botschner, Food Science, is June 1 at 10 a.m. in MacKinnon 132. The thesis is "Doing, Not Providing: A Discourse-Analytic Investigation of Social Support as a Responsive Process." The adviser is Prof. Linda Wood.

The final examination of John Sylvestre, a PhD candidate in the Department of Psychology, is June 5 at 10 a.m. in MacKinnon 132. The thesis is "A Process-Oriented Approach to the Study of Coping by Disengagement and Distraction." The adviser is Prof. Ben Gottlieb.

The final examination of Tomas Gonzalez-Estrada, a PhD candidate in the Department of Plant Agriculture, is June 16 at 9 a.m. in Croq. Sci.

ence 307. His thesis is "Inheritance and Activity of the Early Auxin-Responsive Gh3 Promoter and Somatic Embryogenesis in Alfalfa (*Medicago sativa* L.)." His adviser is Prof. Bryan McKersie.

COMMUNITY EVENTS

The Ontario Public Interest Group holds its 21st annual Speed River Cleanup June 3, beginning at 9:30 a.m. at Royal City Park across from the Boathouse. (In the event of a severe storm, the cleanup will be held June 10.) For more information, call 824-2091.

The Guelph Spring Festival stages its annual Streetfest May 27 from 11 a.m. to 4 p.m. in downtown Guelph. The day features music, buskers, crafts, games and activities for children of all ages. The festival continues until June 4 with a mix of classical, chamber, jazz and world music. For tickets, call 763-3000 or visit the Web site www.freespace.net/~gsf.

The Guelph Arts Council is again offering a series of walking tours. Upcoming tours focus on Brooklyn and College Hill May 28 (leaving from McCrae House), Guelph's original Market Square area June 4 (from Guelph Civic Museum) and downtown Guelph June 11 (from Guelph Civic Museum). Tours begin at 2 p.m. and cost \$2.

The Zonta Club of Guelph hosts its 16th annual tour of distinguished Guelph and area homes June 4 from 11 a.m. to 4 p.m. Cost is \$15. To reserve tickets, call the Guelph Civic Museum at 836-1221.

Farm Fun and Sun Camp, a camp for eight- to 12-year-olds, runs Aug. 13 to 19 at the Albion Hills Conservation Area in Bolton. For details, contact Crystal Mackay at 856-0352 or cmackay@ontario.ork.on.ca.

A Natural Approach to Dandelion Control

Fungi can reduce amount of herbicide needed for pesky weed, study finds

ANATIONAL EFFORT to find an environmentally friendly dandelion control has set its sights on naturally occurring fungi that weaken the weed's growth and decrease pesticide use.

Preliminary findings of a five-year search by a university-industry research team co-ordinated by Prof. Greg Boland, Environmental Biology, show that using selected fungi can appreciably reduce the herbicide rate needed to effectively control dandelions.

The ban of 2,4-D in many public areas in Ontario because of concerns about high-volume pesticide use has increased the need for an effective non-chemical method of managing dandelions.

"Ideally, a biological control agent (BCA) would control dandelions on its own, but this may not be enough," says Parry Schnick, a former graduate student of Boland's. "A combination of BCA and low rates of a herbicide, however, may effectively manage weeds while decreasing the amount of chemical herbicide required."

Integrating fungi with reduced herbicide doses could decrease the cost of commercial weed management and can have the advantage of being host-specific, says Schnick. So the team is testing fungi for the properties required to become a successful BCA (also known as a bioherbicide). These fungi — or plant pathogens — are found naturally on dandelions or in soil or plant debris.

The fungi attack dandelions by forming lesions on their leaves. This either kills the plant or decreases the

energy available to it, making it less competitive. Wounds caused by the BCA that don't kill the dandelion may allow other natural pests to take hold and kill or weaken the weed.

Controlling dandelions is tough. They survive a wide range of environmental conditions, produce many airborne seeds and are perennial, which means they survive winters to grow during two or more summers. Evaluating and developing a commercially acceptable bioherbicide has been a narrowing-down process. Researchers from across the country — U of G, the Nova Scotia Agricultural College and MacDonald College at McGill University — collected diseased dandelion plants and isolated fungi that caused damage. The pathogens were then screened for specific traits

such as efficacy, host range and ease of production.

Schnick tested three of the identified pathogens in combination with reduced doses of three chemical herbicides (2,4-D, diquat and glyphosate). Their effectiveness was tested under laboratory and field conditions at the Guelph Turfgrass Institute. Each pathogen and herbicide was also tested alone, to compare single and combination treatments.

Results showed that some BCA-herbicide combinations were more effective than herbicides or BCAs alone, in both lab and field. But combination treatments were less effective under field conditions, suggesting that environmental factors may play a role in overall effectiveness.

The next step in developing a

commercial product is to investigate storage and shelf-life qualities of the BCAs, as well as production costs. If more research and assessment are carried out and found promising, researchers predict a BCA product could be available in the near future.

This research was sponsored by Dow AgroSciences Canada, the BioProducts Centre, Philom Bios, the Saskatchewan Wheat Pool, the Ontario Ministry of Agriculture, Food and Rural Affairs, and the Natural Sciences and Engineering Research Council.

For more information about lawn care and dandelion control, call the Guelph Turfgrass Institute at 767-5009 or visit the Web site www.uoguelph.ca/GTI/.

BY JUIE BHATIA
OFFICE OF RESEARCH